

**THE HUMAN INTERACTION EFFECT: AN ETHNOGRAPHY OF  
(DIS)ENGAGEMENT IN TEACHING AND LEARNING**

A Dissertation

by

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## **ABSTRACT**

Educators and students struggle with engagement in many educational settings and at all levels. A lack of engagement has been reported to contribute to an ever-widening gap between how students develop knowledge, skills, and abilities and how teachers provide instruction. At the onset of this study, the purpose was to understand how depth and sequence of experience influenced student engagement. During one calendar year, 42 undergraduate students between 18-25 years of age enrolled in an applied social science research methods course and agreed to participate in this study. Students enrolled in one or two of three academic semesters (spring, summer, and fall) with varying depths and sequences of experiences. I collected data through student interviews, observations, student and teacher reflexive journals, and classroom dialogues. Additionally, I considered aspects of students' critical thinking abilities, personalities, and learning styles throughout the duration of the study. Results of this study included narrative themes that described the complex and unforeseen realities of (dis)engagement experienced by teachers and students. Conclusions included that all levels and sequences of experiences were engaging, but not all experiences were equally engaging. Further, I noted the environment to have a profound effect on the implementation of the depth and sequence of experiences: The design of the experiences was conceptualized for an in vitro environment, yet the experiences were carried out in an in vivo environment. Various perspectives of experiences existed, and individuals' temporal, physical, and emotional proximity to specific experiences often influenced other students' and teachers' perspectives. At the conclusion of the study, it was evident

that the scope of the study needed to be expanded beyond the influence of how depth and sequence of experience engaged and disengaged students and teachers. Although many researchers have proposed models for experiential teaching and learning, few have accounted for the abstract and malleable nature of models and rarely include the influence of temporal stability on (dis)engagement.

## DEDICATION

Aaron	Bryant	Elizabeth	Joey	Maurice	Tanner
Allison	Caitlin	Ethan	John	MC	Tara
Amanda	Cam	Gabby	Jorge	Montana	Taylor
Amber	Cam	Gavin	Josh	Nathan	Thomas
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To the crazy youngins that filled my tiny classroom with corny jokes, belly laughs, and endless amounts of hope, thank you for showing me respect before it was earned and believing in me when I didn't believe in myself.

You're the reason I'm here. You taught me how to teach.

#raisingthebar #family  
@northsideffa

This is for you.

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*We're only as tall as the shoulders we stand on.*

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## CHAPTER I

### INTRODUCTION

*We make the road by walking.*  
*--Myles Horton*

#### Summary

I could claim this study was firmly rooted in the work of my predecessors, but that would be a dishonest account of the very problem and purpose of this dissertation, and the manner in which it was conceived. To be frank, the research presented here was never supposed to be the focus of my studies—or career, for that matter—yet, serendipitously developed during a difficult time in my life. Supplying a dramatic account of this experience is needless, but should be acknowledged and appreciated, for that matter, as the impetus for an authentically aberrant approach to my studies.

My inability to conform to the traditional requirements of graduate study have been the topic of much discussion over the past two years, leaving many to wonder (myself included) if I was destined for scholarly work. I hope the curiosity of my wanderings provides motivation to understand the issues of disengagement that plagued my experience and enlightened my search. Because, although I was told the world was flat, I found myself on the other side.

Beginning at the end of my experience is the only way to be truthful in what happened, what I learned, and what my motives were. However, what makes sense to me does not “fit” the traditions of the dissertation process. Therefore, I will present this document in the traditional way, but please know the truth; I began at the end.

## **A Whole New World**

I'm not sure how many times I've heard, "graduate school isn't the place to find yourself," and to that I respectfully disagree. For some, graduate school is an opportunity to express what they already know, and for others it is a place to explore, get lost, find direction, and discover new things. My journey was beset by a need to fit in somewhere I did not belong, and the path cleared only when I stopped forcing myself into a predetermined mold.

You see, I was new to this game and its complex lexicon of terminology seemed like the language of a foreign land. Graduate school was far from the world of teenagers I was accustomed to, and I missed the crazy and chaotic comforts my classroom provided. Mornings no longer began with my youngins [*sic*] dramatic love lives or stories of weekend muddin' adventures; instead, I sipped coffee while attempting to decipher philosophical musings around the office. I quickly found rules in this new world to be complex and ever changing. My previous understanding of social mores no longer made sense and provided many opportunities to screw up, and I did... a lot. I soon took on the transactional nature of my surroundings and lost interest learning about my seemingly uninhabitable new life. Making sense of this experience laid the foundation to understand why I—why we—sometimes have a hard time engaging in just about anything—teaching, learning, relationships, simple tasks, etc. More specifically, it set me up to understand student engagement, an issue that frustrates teachers every single day, at all levels of education.

My struggles as an agriculture teacher in rural North Carolina provided perspective to my inquiry, but became secondary to the lack of interest and motivation I experienced as a student in graduate school. I always believed experience and learning to be one in the same, but, initially, graduate school challenged me to learn without first-hand experience to reference. Although I didn't know it at the time, I desperately needed more research experience—with people—outside the sterile environment of my office. My 60-hour week teaching and learning *with* students had been replaced by heavy textbooks and limited opportunities to engage. Learning had become an *individual* activity and I lacked all motivation to learn *from* and *with* myself.

A summer field experience proved to be the antidote to my research woes; I found purpose in the classrooms, livestock barns, and greenhouses of California agriculture teachers. Piece by piece, I put together their story, the ag ed story, and somehow made sense of my own. The #iteachag project was more than a turning point, it was transformative. The following fall, I observed students having problems connecting to content in the classroom, and I could feel their pain. I wondered if maybe we were experiencing the same problem, but in different ways—maybe even opposite ways—and several questions began to surface: a) Could my issues learning come from an inability to connect new information to my experience and could their issues come from no experience to connect new information in the first place? b) Would we be more likely to engage in learning if we had experience to reference? c) How much experience do we need and when? d) If we were more likely to engage in learning with experience to reference, should we change the sequence in which we teach? My efforts to understand

these questions created new opportunities to experiment with learning and set the stage for this dissertation. Learning was no longer an *individual* activity and I gained the necessary motivation to understand this new world by engaging *with* my students.

### **Purpose of the Study**

The purpose of this study was to understand how (depth) and when (sequence) experience engaged students in learning. In this dissertation, I will provide an in-depth description and comparison of student engagement from my perspective as the teacher, but that's only half of the story. Because the literature on student engagement rarely provides the student perspective, students have also provided additional findings of this experience in a separate undergraduate research thesis. Data were interpreted from the distinct points of view of teacher and student, but studies were conducted simultaneously, mirroring one another in terms of theoretical and conceptual frameworks, research questions, and analyses.

### **Rationale for the Study**

Engaged students are more motivated to learn, but understanding how to engage students is a complex task (Coates, 2007). Teaching and learning are not mutually exclusive. The ability of a teacher to engage students is met with an unlimited number of extraneous variables and ever-changing policies that continuously disrupt their daily approach. Issues of student engagement become more difficult in high-stakes educational settings. According to Heubert and Hauser (1999), the context and standards of high-stakes environments have unintended consequences that discourage teachers from improving instruction to engage students. Additionally, teachers in high-stakes

environments exhibit more controlling behaviors and are less likely to use practices that support student engagement, including exploration and experimentation (Sheldon & Biddle, 1998).

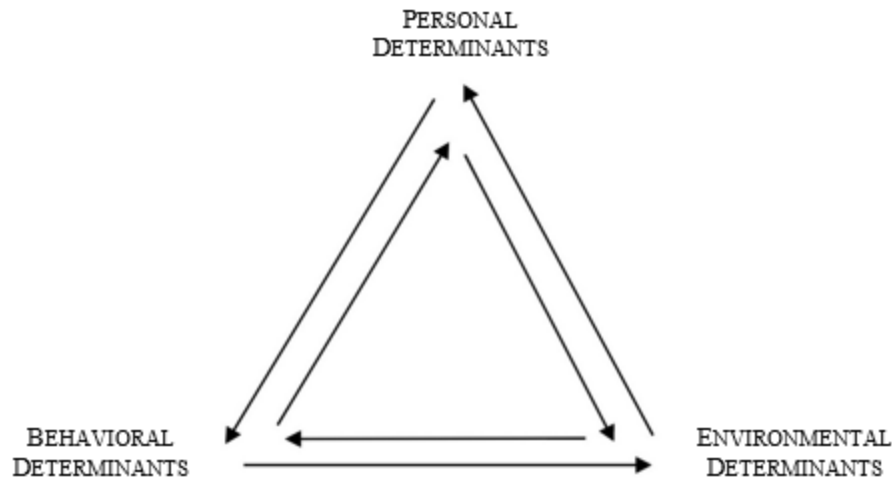
The challenges of teaching today's student requires learning a new reality that is far from the classroom many educators experienced. Perceptions that foster ideas of "edutainment" and quick fixes to student engagement only create misrepresentations of the problem facing our classrooms (Sorathia & Servidio, 2012). The Internet has provided access to endless amounts of information. The ability to experience the world may have virtually made it more difficult to acquire knowledge and skill in traditional ways. Technology has changed more than the way learners see the world; it has changed the way they experience it. Teaching, without renewed perspective of learning, may create an ever-widening gap between how students develop knowledge, skills, and abilities and how teachers provide instruction.

A confusing web of perspectives, approaches, and settings presents the need to understand student engagement at a basic level. Although research has contributed to varied components of teaching and learning, a collective understanding could illustrate possible opportunities for teachers *and* students to engage in any learning environment.

### **Theoretical and Conceptual Framework**

Social cognitive theory (SCT) (Bandura, 1986) provided structure to understand how individuals operate within and among systems of social interaction. Bandura's theory (see figure 1) depicted that human interaction can be explained best by understanding the interdependent and causal relationship between people, their

behaviors, and the surrounding environment. By viewing personal characteristics as reciprocally altered by behaviors and environments, researchers can view people as both creators and products of their experiences and understand the way individual thoughts and feelings affect the different ways people approach the world (Bandura, 1986).

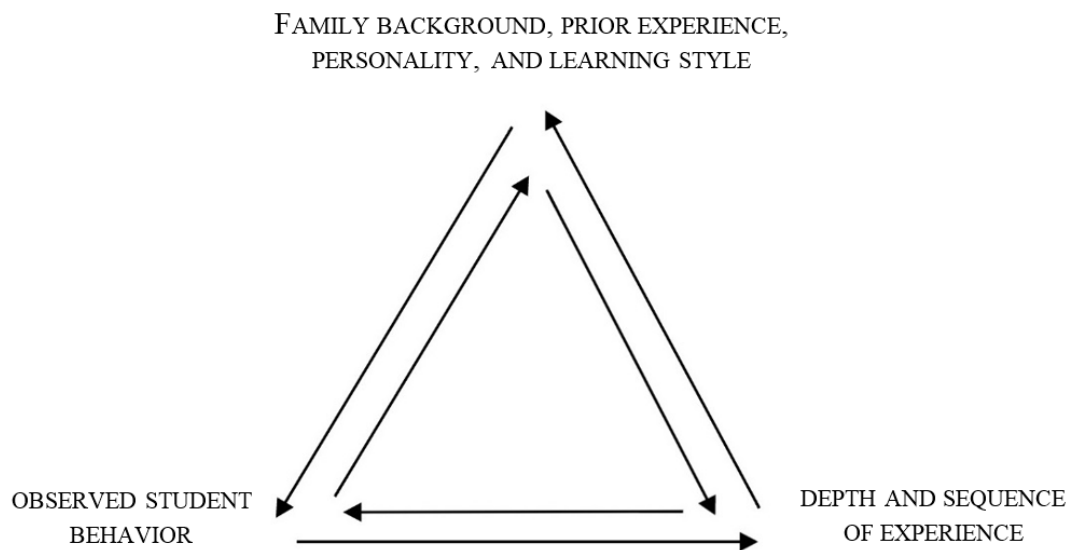


*Figure 1. Adapted figure of social cognitive theory (Bandura, 1986).*

For this study, I used SCT to understand change in student behavior with the use of personal and environmental determinants as stable concepts or variables. Admittedly, they probably weren't stable, but to simplify the concept, they will be thought of as stable. Student behavior will be interpreted with individual and group units of analyses to better understand how personal characteristics and environments change student behavior overall. Theoretically, this can be understood best with a simple equation: the sum of personal and environmental equals behavioral ( $P + E = B$ ). Although simple on paper, this equation provides structure for the analysis of very complex human interaction. This simplification is not meant to water-down the complexity of Bandura's theory but rather to serve as a guide for more detailed understanding.



Drawing on SCT, I developed a conceptual framework (see Figure 2) to understand the effect of depth and sequence of experience on student engagement. The concepts I associated with each determinant of SCT are as follows: Personal characteristics of individual background, prior experience, personality, and learning style were used to describe personal determinants prior to the study. Additionally, environmental determinants of experiential depth and sequence were described to better understand the resulting behaviors and the triadic and reciprocal nature of SCT. Behavioral determinants were observed as outcomes of both personal and environmental determinants. Although determinants were observed as fairly stable concepts or variables, the flexible nature of this study used frameworks as guides to understand the research questions.



*Figure 2. Conceptual model adapted from Bandura's (1986) model of SCT.*

## **Research Questions**

Understanding individual perspectives, behaviors, and approaches to teaching and learning is a complex task. My research questions began from a very positivistic place, but transitioned to a more naturalistic place, as I developed as a researcher. Two questions provided structure, but were untangled and loosely reformed to allow for the more responsive, emergent, and transformative nature of this process:

*Research Question 1 (RQ1):* How does depth of experience influence student engagement?

*Research Question 2 (RQ2):* RQ2: Does the sequence of experience influence student engagement?

## **CHAPTER II**

### **REVIEW OF LITERATURE**

*Education is not preparation for life; education is life itself.*  
-- John Dewey

#### **The Changing Landscape of Higher Education**

The single unifying purpose of higher education has been the topic of debate for years. Colleges and universities were once considered keepers of national culture, serving as producers and protectors of knowledge and ideas; however, the nature of society and place of the university is no longer easy to define (Readings, 1996). The college degree that once stood as the portal to a more comfortable, middle-class life has been met with rising costs and concerns of becoming the new high school diploma (Abel & Deitz, 2014; McCann & Laitinen, 2014). An in-depth understanding of teaching and learning first requires greater perspective of the broader system of higher education.

Harvard, the first American institution of higher learning, was founded by the Puritans in 1636 to improve the conditions of society (Dewey, 1916) and produce “a learned clergy and a lettered people” (Rudolph, 1962, p. 6). In the years since, a clear mission of American colleges and universities has become more difficult to understand. In many instances, higher education is responsible for student learning in a wide array of discipline-specific competencies and generic skills to help students lead more productive lives (Astin, 1997; Perry, 1968; Haigh & Clifford, 2011). According to the American Association of Colleges and Universities (AAC&U) (2002), three factors must be developed prior to receiving an undergraduate degree: students should be a) informed

with knowledge of both the natural and social world, (b) enabled by the acquisition of intellectual and practical skills, and (c) responsible for their personal and civic lives.

Doyle (2012) argued that informing students in how to become responsible citizens will produce a highly skilled workforce of ordinary citizens instead of scholars and professionals capable of careers in a global workforce. Conversely, Lagemann and Lewis (2012) suggested the purpose of a college degree had less to do with the pursuit of a rewarding career and more to do with preparing young adults to lead lives of civic and personal virtue. Similarly, Nussbaum (2012) suggested students should acquire generic dispositions such as “the ability to think critically; the ability to transcend local loyalties and to approach world problems as a ‘citizen of the world;’ and, lastly, the ability to imagine sympathetically the predicament of another person” (p. 7). More commonly, competencies are often defined as developing skills in effective communication, basic problem-solving, and interpersonal interaction (Menges & Austin, 2001).

Although personal and social development is often emphasized, other researchers argued for an approach that prepares students for careers that contribute to their well-being, while also benefiting society (McArthur, 2011; Brennan, Durazii, & Sene, 2013; Selingo, 2013). Bennett and Wilezol (2013) recognized the role higher education plays in self-actualization, but emphasized the need to prepare students for the specialized fields of today’s workforce. Rowland (2002) provided a similar view and believed the purpose and value of a college degree is to create prosperity for a knowledge-based economy, while also building general skills and discipline-specific competencies.

Defining the knowledge and skills relevant to an ever-evolving workforce has created several problems aligning learning outcomes with the demands of employers (Savitz-Romer, Rowan-Kenyon, Zhang, & Fancsali, 2014; Craig, 2015). The Time/Carnegie Corporation of New York (2012) reported 40% of undergraduates believed the purpose of their studies was to gain knowledge and skills needed for their future careers; whereas, 36% of college administrators believed the purpose was to teach students to think critically. Inconsistencies between the skills needed to succeed academically and the career-ready skills needed to secure a job create confusion as to which guarantee success after graduation. Other researchers suggested the problem is communicating a student's ability in terms of specific skills such as self-efficacy and critical thinking instead of the broader categories of leadership and project management used by employers (Craig, 2015).

Continued disagreement over the goals, purposes, and outcomes of higher education may signal disconnect between student learning and college teaching, as well as issues of student engagement. Student development and engagement literature may provide needed connections between teaching and learning, and insight into the ever-changing landscape of higher education (Astin, 1999; Pascarella & Terenzini, 2005; Kuh, 2009).

### **What is Student Engagement?**

Engaged learning practices used to develop students into in-depth learners, instead of passive receptors, have been essential components of educational theory for years (Johnson, Johnson, & Smith, 2001). Drawing on roots in constructivism, engaged

learning required students to construct knowledge with their own experiences instead of accepting the experiences of an all-knowing teacher (Piaget, 1976). Chickering and Gamson (1987) provided principles to engage undergraduates in learning; these principles included interaction between faculty and students, student cooperation and reciprocity, and active learning.

Developing a specific definition of student engagement has become increasingly important since researchers and administrators began working on practices to improve student performance. Krause and Coates (2008) defined student engagement as “the extent to which students are engaging in activities that higher education research has shown to be linked with high-quality learning outcomes” (p. 493). Similarly, Hu and Kuh (2001) defined engagement as “the quality of effort students themselves devote to educationally purposeful activities that contribute directly to desired outcomes” (p. 3). Others have proposed contrasting views by adding that engagement is more of a deliberate process on behalf of institutions to empower students to shape their own learning experiences (HEFCE, 2008). Kuh (2009) combined thoughts by adding student engagement could be defined as “the time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in these activities” (p. 683). Harper and Quaye (2009) argued engagement was a more complex matter that required more than an understanding of time and effort. In their view, involvement without feeling engaged was simply compliance; students must feel an emotional connection to make meaning of their experience.

### **Why Does Student Engagement Matter?**

The connection between student involvement and student success is well-documented in the literature. According to the National Survey of Student Engagement (NSSE) (Ewell, 2010), the more involved students are, the more invested they will be in the institution. Kuh, Cruce, Shoup, Kinzie, and Gonyea (2008) explained student engagement is positively related to student persistence and academic performance. A report of the Community College Survey of Student Engagement (Marti, 2008) highlighted this connection by finding that active and collaborative learning was a significant predictor of college completion. Participation in curricular and co-curricular educational activities had a positive impact on all students, but provided even greater benefits for historically underserved students (Kuh, 2009; Cruce, Mattern & Sconing, 2015). Although educationally purposeful activities helped students from underrepresented or underserved backgrounds by leveling the playing field, continued engagement was less likely for students from these populations (Kuh, 2009). Kuh et al. (2008) highlighted the relationship between student engagement activities and rate of completion, but suggested the most alarming findings directly aligned student disengagement and dropout.

In the Gallup-Index Report (2014) of recent college graduates, researchers concluded that students with higher levels of engagement were more satisfied with learning and life after graduation in relation to peers with low levels of engagement. These findings align with other studies related to building positive campus environments with intentional educational practices. Researchers from the NSSE (Ewell, 2010) believe

a positive campus culture helps create the sense of belonging needed for students to devote more energy to coursework and foster positive relationships. The NSSE provided five benchmarks to assess the engaged culture created by colleges and universities. These benchmarks are a) adequate level of academic challenge, b) favorable amount of active and collaborative learning options, c) quality faculty and student interaction, d) abundant amount of enriching community interaction, and e) existence of a supportive campus environment.

Studies conducted by a consortium of leading liberal arts colleges suggested positive outcomes of increased engagement in learning, especially when students took part in sustained interactions with faculty and their peers (Astin, 1999). The AAC&U (2015) refers to activities such as student-faculty interaction as high impact practices (HIPs) and provided ten teaching and learning practices to increase student engagement in educational activities. These practices are first-year experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research, diversity/global learning, service-learning/community-based learning, internships, and capstone courses and projects. Research has provided a great deal of information concerning the benefit and assessment of HIPs, but issues of overall student engagement continue to be widespread (Kuh, et.al, 2006; Kuh, 2009; AAC&U, 2015). Although these practices have been shown to increase student learning outcomes and rate of completion, many occur outside of class and require a large amount of time on both the part of the student and teacher (Kuh, 2009). Furthermore, many large-scale studies of student engagement have surveyed



college students about their overall college experience. However, few have attempted to understand student engagement at the classroom level. Information concerning the various perspectives of teaching and learning could provide broader understanding of the ways teachers approach student engagement and learning in a classroom setting.

### **Perspectives of Teaching and Learning: Pedagogy vs. Andragogy**

Pedagogical models of the theory and practice of education view learners as empty vessels instead of complex beings capable of constructing their own understanding from experience (Dewey, 1916; 1938). The subject-centered nature of pedagogy requires students to learn only what is taught without application of content to everyday life. Knowles (1980) argued that a pedagogical model does not allow a learner to reflect on prior experience because it is of little value as a resource for learning. Knowles and Dewey argue that this approach creates dependent learners with little to no self-direction (Knowles, 1980; Dewey, 1916).

Typically, the learner in a pedagogical setting expects the teacher to assume full responsibility for information and experience with the topic of study. Pedagogy is characterized by close supervision and does not require a learner to be self-directed or autonomous (Minter, 2011). The learner sees the teacher as the leader of authority and information. Experience plays a significant role in learning; however, the role of the learners' experience in the pedagogical teaching environment is of little value. The learners may come to the activity with experience, but the structure does not use learners' experience as a resource in teaching.

According to Knowles (1980), the transmittal and transactional nature of a pedagogical approach to learning gave rise to adult learning practices in the 20th century. Adult learners believed that pedagogy was insufficient and frequently resisted teaching strategies, including lectures, drills, quizzes, and exams. Dropout rates were high and teachers believed the pedagogical model did not fit their adult learners. Knowles theorized that the backlash to a pedagogical approach emphasized the differences between children and adults (Knowles, 1980).

To emphasize the differences between teaching children and adults, Knowles described the term andragogy as the art and science of helping adults learn (Davenport, 1987). According to Knowles (1980), andragogy should help learners achieve self-actualization by involving the whole intellectual, emotional, and psychological being. In Knowles's view, the teacher aided in the transition to self-directed learning by acting as a facilitator (Darkenwald & Merriam, 1982).

The theory of andragogy focused primarily on the functions and roles of the teacher, but was based on the unique characteristics of the learner (Knowles, 1980). According to Knowles (1980), individuals become more self-directed with maturity as they accumulate life experiences or resources for making connections with new information. Although adults become more willing to learn, they move away from learning for biological or academic development and toward learning as a function of acquired social roles. Adult learners also think differently about time and move from learning general subjects to more immediate, problem-centered uses for material (Darkenwald & Merriam, 1982; Knowles, 1980).

To many, the dichotomy (pedagogy and andragogy) is bound by characteristics of age. However, Knowles (1980) argued learners should be characterized beyond a simple difference in years. Instead, Knowles suggested defining an adult in terms of experience, maturity, and responsible behavior. Houle (1972) viewed learning as a singular process for both children and adults, and claimed Knowles' theory was more of a technique than organizing principle of education. In response, Knowles (1980) agreed that andragogy should be used situationally along with pedagogical models. Furthermore, Knowles argued models of pedagogy and andragogy should "not be seen as dichotomous, but rather as two ends of a spectrum" (p. 43).

Much of the disagreement over Knowles' theory stemmed from differences in philosophy (Davenport & Davenport, 1985). Hartree (1984) believed the basic assumptions of Knowles' theory of adult learning created confusion between theory and practice. She questioned the overall soundness of andragogy and claimed adult educators would need clarity as to its function as a method of teaching or a method of learning. Conversely, McKenzie (1979) defended andragogy and claimed the "existential differences between children and adults required a strategic differentiation of education practice" (p. 257). Disagreement over the classification and utility of andragogy requires a more comprehensive analysis of the philosophical dispositions of teaching and learning.

### **Philosophical Perspectives of Education**

Teaching philosophies serve to answer fundamental questions of the purpose of education, the teacher's role in the learning process, what should be taught, and the

methods used to carry out instruction (Solitis, 1978; Siegel, 2009). To better understand the core questions of what it means to teach, I will survey the widely accepted educational philosophies (Perennialism, Essentialism, Progressivism, and Postmodernism) by first outlining the broader domains of philosophy from which they were derived. Each will be presented in a specific sequence to provide parallel structure.

### *Schools of Thought*

Four general schools of thought (realism, idealism, pragmatism, and existentialism) orient philosophies of education at a metaphysical level. The term metaphysics means "beyond the physical." Metaphysics seeks to discover unity across the domains of experience and thought by focusing on the nature of reality (Schofield, 2012). Two of these domains, idealism and realism, date back to the ancient times of Plato and Aristotle while two other domains, pragmatism and existentialism, are more contemporary to philosophical thought.

Idealism is the philosophical belief that ideas are the only true reality. Based on Plato's theory of knowledge, idealists assert that the search for truth, beauty, and justice provides permanence and a conscious reasoning of the mind (Brooke & Frazer, 2013). In *The Republic*, Plato described the utopic society as one that served the purpose of educating two separate worlds of mind and body. Plato illustrated this duality with the allegory of the cave and the need for the body or senses to overcome shadows with the light of reason or truth (Bloom, 1991).

Realism is the philosophical belief that reality exists independent of the human mind. Plato's student Aristotle broke with idealism to claim that truth is objective and

can be observed (Ozman & Craver, 2008). The objective of this metaphysical view is to comprehend objective reality through meticulous examination of observable data.

Aristotle viewed rational thought as the purpose of humankind and believed objects should be understood in definitive and unchanging form (Carr, 2014).

Pragmatism is the philosophical belief that truth is relative and constantly changing through active experience. The pragmatic view is rooted in the teachings of Peirce, who believed lingering thought without action led to indecisiveness (Pierce, 2012). Pierce supposed we learned best through the application of experience to solve problems as they arise. Dewey ascribed to pragmatic approaches, emphasizing the importance of learning by adapting to social environments (Nelson, 2014).

Existentialism is the philosophical belief that reality is subjective within the individual. Kierkegaard is considered the founder of this metaphysical domain and believed the world lacked meaning outside of human existence (Habermas, 2014; Haynes, Gale, & Parker, 2015). Existentialists emphasized individual choice and freedom instead of external standards of predetermined philosophy. Sartre (2015) believed the existential focus of life should be in determining human potential and finding personal meaning.

### *Philosophies of Education*

Educational philosophies focus on what, in terms of curriculum, should be taught. Four major educational philosophies (perennialism, essentialism, progressivism, and postmodernism) align within the broader metaphysical domains outlined above and

suggested a way of understanding reality, knowledge, and points of clarity to understand the purpose of curriculum and teaching.

Perennialism and essentialism are teacher-centered philosophies that emphasize values and knowledge that have survived the test of time. Teacher-centered philosophies tend to be more conservative and authoritative in nature; they rely on the teacher as the sole source of knowledge. Conversely, progressivism and postmodernism are learner-centered philosophies that focus more on individual needs and real-world relevance of instruction. Learner-centered philosophies tend to be more contemporary in nature and place the learner and his or her experience at the center of what is to be learned and how it is to be learned (Phillips, 2014).

Perennialism is an educational philosophy that seeks universal and enduring truths by teaching ideas that are constant and not changing. Because the details of facts are ever-changing, perennialists focus on the teaching of principles through literature, art, philosophy, and religion (Schofield, 2012). Rather than develop skill through vocational training, learners are developed through reasoning and wisdom.

In perennialism, liberal arts serve as the basis of curriculum to develop the mind, whereas character is developed through the observation and imitation of role models or heroes. Lecture, discussion, and Socratic dialogue provide methods for teaching ideas through questioning and clarifying knowledge. Perennialists including Bloom, Hutchins, and Adler believed a demanding curriculum cultivated human intellect by emphasizing the accomplishments of humankind (Brooke & Frazer, 2013).

Essentialism is an educational philosophy that focuses on the basics of knowledge and skills to build citizenship. Knowledge is transmitted to learners in a disciplined and systematic way with high standards of academic rigor. Essentialists believe education should be practical with a focus on reading, writing, and mathematics. Additionally, learners are expected to develop work ethic and respect for authority (Phillips, 2014).

Essentialist philosophy emphasizes the physical world with the use of scientific and standard approaches to curriculum. Character development is also approached with training in standard rules of conduct. Curriculum content is organized and presented systematically within specific disciplines and methods focus on the mastery of facts and skills through demonstration and recitation (Phillips, 2014). Essentialists including Bagley and Sizer believed a strong emphasis on discipline would deter students from tendencies to be mindless or aggressive (Schofield, 2012).

Progressivism is an educational philosophy that focuses on the learner as a social being who learns best from experimentation. Learning is active, not passive, and embedded in the questions learners encounter while experiencing the world. Progressivists believe education should focus on the whole child rather than on the subject or the teacher. The learner is expected to make meaning through personal experience while problem-solving in specific physical and cultural contexts (Cremin, 1961).

The aim of a progressive education is to develop a diverse and cooperative society that contributes to the creation of a new social order. Instead of focusing on the

individual, character is developed through shared decision-making with shared consequences. Curriculum is centered on interdisciplinary problem solving that is hands-on and project-based. Content is not organized to be taught and received, but to be acquired with the application of knowledge through experimentation (Piaget, 1973). Dewey and Kilpatrick championed the progressive movement and believed modern approaches to education were too concerned with delivering instead of developing knowledge from experience (Cremin, 1961; Ozman & Craver, 2008).

Postmodernism is an educational philosophy that emphasizes change through the analysis of social questions. Social reform is the focus of curriculum and is aimed at preparing learners to improve the human condition by overcoming systematic oppression (Freire, 1996; 2004). Postmodernists view teaching and learning as a process of continuous inquiry that requires the learner to constantly invent and reinvent the world.

Postmodernism places the learner within a social context where the individual clarifies his or her own views by confronting opposing views. Character development is centered on authenticity and personal responsibility (Phillips, 2014). Postmodernists believe learners must examine life through genuine learning experiences to focus on self-direction and self-actualization. The learner is the subject to be learned rather than discipline-specific content. Freire advocated for postmodernism and believed in deep reciprocity between the dichotomy of teacher and student (Freire, 1996; Schofield, 2012).

For reference, a side-by-side comparison of educational philosophies is provided in Table 1 to illustrate the similarities and differences in goals, curriculum, roles, and



settings. The broader domains associated with each philosophy were also included to illustrate greater orientation of philosophical perspectives.

*Table 1.*  
*Side-by-side Comparison of Educational Philosophies*

	<b>Perennialism</b>	<b>Essentialism</b>	<b>Progressivism</b>	<b>Postmodernism</b>
<b>Broader Domain</b>	Idealism	Realism	Pragmatism	Existentialism
<b>Goal of Education</b>	Train the intellect; develop moral development	Acquire basic skills and info needed to function in society	Develop problem-solving skills needed to function in society	Critically examine society; improve the human condition
<b>Curriculum</b>	Emphasis on enduring knowledge	Emphasis on basic skills	Emphasis on problem-solving	Emphasis on social reform
<b>Role of Teacher</b>	Deliver clear lectures, increase understanding with critical questions	Deliver clear lectures, increase understanding with critical questions	Guide learning with questioning and practical problem-solving activities	Facilitate discussions that clarify social experiences
<b>Learning Environment</b>	High structure; teacher-driven	High structure; teacher-driven	Collaborative; self-regulated and democratic	Community-oriented; self-regulated

Outlining the major philosophical perspectives of education provided vital points of reference to understand placement and value of experience in teaching and learning. Additionally, the dispositions to teaching (and thus, of teachers) creates a complementary need to also understand the various psychologies of learning (Smith, 1971). Providing a broad illustration of perspectives and theories could reveal an incongruent nature between teaching and the psychology of student learning.

### *Perspectives of Learning*

Dewey (1897) and Knowles (1980) believed the process of learning could be understood by observing individual learners as psychological beings, a belief held by philosophers since the writings of Plato. Plato's inquiry into the relationship between mind and body was continued by Aristotle, Descartes, Freud, Pavlov, Piaget, and Maslow, among others, into the understanding of modern psychology (Zimmerman, 2000). Effective teaching must account for many different variables of learning (Smith, 1971). Within the domains of both metaphysics and educational philosophy, we focus on the process of teaching and imparting knowledge to learners. Within those same domains we also find numerous theories to help us understand how learning occurs. To continue connections between educational psychology and previously discussed areas of philosophy, I present perspectives (cognitivism, behaviorism, constructivism, and humanism) in the same sequence seen in previous sections.

Cognitivism is an approach to examining complex and holistic cognitive processes of thinking, concept formation, and information processing (Snelbecker, 1983). Cognitivists focus on individual aspects of thinking and learning. In their view, the brain contains processing structures to store and arrange information. Special emphasis is placed on the brain's ability to process a fixed body of information and how it is received, stored, and retrieved from memory (Olsen, 2015; Jonassen & Land, 2012). In this view, theorists aimed at resolving issues of learning by understanding how the brain receives, organizes, stores, and retrieves information (Ertmer & Newby, 1993).

Cognitivists compared the learning process to that of a computer, asserting that thinking and learning are similar in terms of information processing and memory.

Cognitive theories categorize knowledge in different ways—from general to specific—as declarative (knowing *that*), procedural (knowing *how*), or conditional (knowing *when* and *why*) (Jonassen & Land, 2012). Information is taken in and represented in the mind in a process called encoding, where it is directed to short-term memory and acted upon. Because short term memory has limited capability, information deemed important is sent to the long term memory for storage. Long term memory is organized in structures or schemas, and information can be recalled and used by short term memory when necessary. Theories within the cognitive realm are built on the functions of short term and long term memory and provide strategies for thinking and remembering information (Lutz & Huitt, 2003).

Behaviorism is the area of psychology based on the concept that all human behavior is developed through conditioning. As opposed to a function of internal processes of the mind, behaviorists believe human behavior is in response to stimuli and deliberately shaped by forces within the environment. Conditioning occurs through interaction with the environment; therefore, learning can be the product of environmental design. In this view, teachers manipulate learning environments to help learners make connection through repetition and association (Skinner, 2011).

Psychological behaviorism is rooted in the associationism research of Locke and Hume. According to associationism, intelligent behavior is the product of associative learning. As a result of associations between perceptual experiences and thoughts,

learning occurs when the learner understands the environment and appropriate ways to act (Hume, 1738; Locke, 1690). Association is viewed as the acquisition of knowledge by understanding and connecting events (Graham, 2000).

Constructivist educational theories assert learning is a function of experience and the ways learners create meaning of their own (Jonassen, 1991). Constructivism could be considered a branch of cognitivism; however, most cognitivists believe the brain is a tool to understanding the world; whereas, constructivists believe the brain filters input from the world to cultivate its own reality (Jonassen, 1991). Constructivists believe learning stems from the interpretation of experience within an individual; therefore, the experience must be examined to understand the learning that has taken place (Bednar, Cunningham, Duffy, & Perry 1992).

Constructivists also believe learners should be provided a problem around which they construct knowledge by collaborating with others, developing various perspectives, and providing multiple solutions. Learning is centered on the testing of hypotheses with an event, object, or experience that conflicts with what the learner already knows. The motivation for a learner occurs when the conflict creates an internal imbalance between knowledge and experience and triggers a need to restore equilibrium (Leonard, 2002).

Humanism is a view of educational psychology that emphasized human nature and individual freedom in learning through the human experience. According to Huitt (2001), the ability to act intentionally and with values is central to the Humanist view of learning. Humanism, developed by Rousseau and Pestalozzi, emphasized the basic good

in humans through nature, understanding the world with the senses, and education as a gradual process in which character is developed through the unhurried nature of experience. Humanists believe the learner should control of his or her own destiny by focusing on full autonomy, intellectual freedom, and personal responsibility (Hutchinson, 2004).

For reference, a side-by-side comparison of major perspectives of educational psychology is provided in Table 2 to illustrate the similarities and differences in focus, goals of learning, sources of experience, and learning environments. Associated educational philosophies and metaphysical domains were also included to continue to provide connection between elements of teaching and learning.

*Table 2.*  
*Side-by-side Comparison of Educational Perspectives or Philosophies*

	<b>Cognitivism</b>	<b>Behaviorism</b>	<b>Constructivism</b>	<b>Humanism</b>
<b>Educational Philosophy</b>	Perennialism	Essentialism	Progressivism	Postmodernism
<b>Metaphysical Domain</b>	Idealism	Realism	Pragmatism	Existentialism
<b>Focus</b>	Conceptualization and information processing	Conditioning through repetition and connection	Interpretation of experience through problem-solving	Gradual development through life experience
<b>Goal of Learning</b>	Learning is a function of the mind.	Learning is a function of conditioning	Learning is a function of experience	Learning is a function of human nature and individual freedom
<b>Source of Experience</b>	Teacher	Teacher-Student	Student-Teacher	Student
<b>Learning Environment</b>	High structure; teacher-driven	High structure; teacher-driven	Collaborative; self-regulated and democratic	Community-oriented; student-driven

The connections between teaching and learning, in terms of both psychology and philosophy, illustrate the interconnected nature of teaching and learning. Additionally, the commonalities continue to blur the hard lines between the theory and practice as discussed by the opponents of Knowles' (1980) theory of adult learning.

### **Teaching and Learning as Interconnected Processes**

Dewey (1938) believed teaching and learning to be connected through meaningful engagement with experience. In his view, it would be impossible to separate the experience of learning from the conditions in which the learning occurred because of the context provided by the condition itself. Dewey (1938) argued that “an experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment...” (p. 43). Examining teaching and learning as interactive processes that cannot be separated provides valuable insight into the interactive nature of educational philosophy and psychology. Educational theories provide perspective to how learning occurs and also serve as guides for teachers to shape instruction. With this in mind, I will survey educational theories to better understand the purpose, placement, and value of experience in teaching and learning.

#### *Piaget's Stage Theory of Cognitive Development*

Piaget's stage theory describes the cognitive development of children through change in process and ability. Piaget argued that education should nurture moral development through a process of problem-solving and decision-making (Anning, 1997). In Piaget's view, early stages of development were concerned with repetitive actions that later developed into concrete mental operations. Piaget's four distinct stages of

intellectual development are 1) the sensorimotor stage (birth to two years of age), or the time when infants and toddlers acquire knowledge through sensory experience and object manipulation; 2) the preoperational stage (age two to about seven), or when children learn from play but struggle with logic and perspective; 3) the concrete operational stage (age seven to eleven), when children begin to develop the ability to think logically and through the experiences of others and; 4) the formal operational stage (adolescence into adulthood), when people become capable of logical and deductive reasoning and have the ability to grasp abstract ideas (Piaget, 1983). In his theory, Piaget most notably claimed that the learning process was not the accumulation of information over time, but instead a qualitative and fundamental change in how the learner thinks about the world (Fancher, 1996).

### *Domains of Learning*

Gagne is well known for his synthesis of work on learning and identification of the conditions of learning (internal and external). Gagne stressed the cumulative nature of learning and use of skills within and among five domains: a) information; b) intellectual skills; c) cognitive strategies; d) motor skills; and e) attitudes (Kovalchick & Dawson, 2003; Haynes, Gale, & Parker, 2015). Gagne (1970) also described the relevant conditions of learning and placed a considerable amount of influence on identifying a definite sequence of instruction. Gagne's theory arranged domains and skills in hierarchical order to emphasize the importance of mastering lower-level skills and progressing upwards.

### *Bloom's Taxonomy*

To better understand the process of learning, Bloom developed a three hierarchical models to classify learning into cognitive, affective, and psychomotor domains (Anderson & Krathwohl, 2001). Objectives were placed on a continuum in order of complexity and mastery from simplest to most complex. Categories of the cognitive domain were knowledge, comprehension, application, analysis, synthesis, and evaluation. Learning objectives of the affective domain were receiving, responding, valuing, organization, and internalizing values; and the seven categories of the psychomotor domain were perception, set, guided response, mechanism, complex overt response, adaptation, and origination (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956; Anderson & Krathwohl, 2001).

### *Thorndike's Law of Effect*

Thorndike is credited with the development of contemporary behavioral theories that view learning as a function of trial and error. His experiments with animals established the law of effect that stated that any behavior followed by reward is likely to be repeated, and any behavior followed by a punishment is not likely to continue (Thorndike, 1965). Although, Thorndike (1965) did not place emphasis on meaning or understanding, he was the first to associate learning to repeated patterns of response instead of an individual's intellectual ability or capacity.

### *Pavlov's Theory of Classical Conditioning*

Pavlov developed the theory of classical conditioning while studying the digestive system of dogs. Pavlov's research noted animals salivated naturally when



presented with food. However, Pavlov also found that the animals showed a conditioned response and salivated when associating food with the person presenting the food (Schofield, 2012; Phillips, 2014). Pavlov's theory compared the associations that occurred between an environmental stimulus and a naturally occurring stimulus; his theory was based on four features: a) reinforcement, or the repetition of a stimulus and conditioned or unconditioned response; b) extinction, or the weakening and eventual dropping of an unconditioned stimulus; c) inhibition, or the elimination of a stimulus that confuses response; and d) generalization, or the pairing of stimuli to elicit behavior associated with a previously learned behavior (Richey, 1986; Siegel, 2009).

#### *Vygotsky's Zone of Proximal Development/Scaffolding*

Vygotsky stressed the essential role of social interaction in the improvement of cognition. The zone of proximal development (ZPD), describes the difference between what a learner can do without help and what a learner can do with help (Vygotsky, 1978). Unlike Piaget, Vygotsky (1978) argued, "learning is a necessary and universal aspect of the process of developing culturally organized, specifically human psychological function" (p. 90). The ZPD is commonly referred to as scaffolding after Wood, Bruner, and Ross (1976) introduced the term to elaborate on Vygotsky's theory. In their view, scaffolding provided the student with support until a task was mastered. Once mastered, the scaffolding would be removed, and the student would be able to complete the task on his or her own.

### *Bruner's Spiral Curriculum and Discovery Learning*

Bruner's (2009) constructivist approach to education emphasized the significance of categorization in learning and argued that the ability to compare and contrast information and experiences was key. Bruner believed any subject could be taught to any child during any point of development and proposed teachers use a spiral curriculum to continuously revisit basic ideas, and then build on them until the learner grasped the concept (Harden, 1999). Bruner also believed learners should build on what they already know by discovering facts and relationships on their own. This laid the foundation for the concept of discovery learning, a process that encourages students to construct new ideas based on current or past knowledge and/or experience (Bruner, 1996).

### *Maslow's Hierarchy of Needs*

Maslow, Frager, and Cox (1970) believed human actions were directed toward goal attainment and proposed that motivation was based on a hierarchy of needs. From their perspective, the drive to learn was intrinsic and the purpose of learning was to achieve self-actualization. Maslow's hierarchy of needs was presented as a pyramid with five levels: 1) physiological, 2) safety, 3) belongingness, 4) esteem, and 5) self-actualization (Maslow et. al., 1970). Maslow believed individuals were born with certain needs and if those initial needs were not met, he or she would not be able to continue through a productive and rewarding life. The first level consisted of physiological needs, or the basic needs of survival (food, water, sleep, and oxygen). Once basic needs were met, an individual would move to the next level of safety and security. When an individual felt safe and secure, he or she would begin to seek out belonging and

acceptance through friendship. The fourth level of need emphasized an individual's need to develop self-respect and self-worth through individual accomplishment.

According to Maslow et al. (1970), to be self-actualized meant to truly know who you were and where you belong in the greater society and to feel as if you accomplished everything within your ability.

### *Kolb's Theory of Experiential Learning*

In the early 1980s, Mezirow, Freire, and others stressed that the way we process experience is at the heart of the way we learn, in particular, our critical reflection on experience (Rogers, 1996). Kolb (1984) described learning as "the process whereby knowledge is created through the transformation of experience" (p. 38). Kolb developed a framework that synthesized the work of Dewey and Piaget by bringing together concepts of individual experience, participatory learning, and the importance of interaction with the environment in the process of learning (Atkinson & Murrell, 1988). Kolb continued to refine the concept of reflection by developing a four-stage cyclical theory combining elements of experience, perception, cognition, and behavior (Algonquin, 1996).

Kolb's theory of experiential learning represented the following four stages: 1) concrete experience (CE), 2) reflective observation (RO), 3) abstract conceptualization (AC), and 4) active experimentation (AE). Kolb (1984) believed the learning cycle could be initiated at any of the four stages and should be approached as a continuous spiral. Atkinson and Murrell (1988) provided this description of Kolb's theory: Learners first initiate the cycle with a first-hand experience (CE); the concrete experience becomes the

point of reference for observations and reflections (RO); observations and reflections are integrated into a concept or theory (AC); newly developed ideas are then tested by the learner and serve as a guide to interpret future experiences (AE). The cycle is continuously repeated, but with a higher level of complexity each time (Kolb, 1984).

### **What are the Benefits of Engaging Students and Teachers?**

Dewey (1938) defined the most powerful learning experiences as those that engage the human mind in its meaning-making of the world. Like Kolb and others, Dewey believed the most educative learning experiences allowed learners to solve problems and build understandings through interaction with the world around them. Although students were the primary concern of most researchers in the literature, Magolda (2005) contended they are not the only ones to benefit from increased engagement in the learning process. The reciprocal environment constructed to engage learners fosters increased teacher engagement as well (Magolda, 2005). Although the literature is rarely focused on the benefits increased student engagement has on teachers (at any level), the benefits can be inferred. For example, increased faculty-student interaction resulted in greater job satisfaction (Bensimon, 2009) and feelings of connectedness for faculty members (Kuh, 2009).

Additionally, the assessment and evaluation of student engagement practices by colleges and universities provide opportunities to identify best practices and areas of improvement. According to Kuh (2009), understanding the areas in which students spend the most time could provide valuable insight into where resources should be allocated. By informing institutional decisions with this type of data, accountability

measures could ensure access to many different in-tangible aspects of university life (Krause & Coates, 2008).

Assessing student engagement activities at the institutional level impact more than funding and accountability measures by also developing an institutional culture of constant improvement. According to Pascarella, Seifert, and Blaich (2010), if an institution is committed to improving student engagement practices and experiences, it is likely overall effectiveness and student learning will also increase. However, caution should be taken to balance accountability with quality assurance and continuous improvement in the increasingly competitive higher education market (Krause, 2005).

## **CHAPTER III**

### **METHODS**

#### **Summary**

In this chapter, I will address the methods I used to understand how (depth) and when (sequence) students were engaged in learning experiences in an undergraduate research methods course. My inquiry was guided by two research questions:

RQ1: How does depth of experience influence student engagement?

RQ2: Does the sequence of experience influence student engagement?

First, I will describe the design of the study; followed by the context of the study; the participants in the study, including the sampling procedures, samples sizes, and subject characteristics in each sample; and data collection and analyses, including sources of data, data analyses, and quality of the data. I will present elements in the simplest, most basic form, and then add complexity with each section. Further, as sections are presented, I will add and explain corresponding research objectives, and how each relates to samples, sources of data, and analyses.

#### **Design**

To address design, I must first clarify there are two elements of design to account for in this study: (a) the design of the study itself, and (b) the design and delivery of the course. In this section, I will describe only the design of the study; I will describe the design and delivery of the course in the context section of this chapter.

Arguably, this study is an abductive, longitudinal, quasi-experiment. However, some researchers may have differing thoughts about how to describe studies, largely

because of experience, discipline, philosophy, and paradigmatic differences. The complexities of this study further challenged me to concisely describe the design, and will be described in greater detail in later sections of this chapter. Although there are many schools of thought regarding design, I approached the design of this study as a case study because of the bounded time, activities, and participants included in the study.

### *Time*

This study was conducted during one year, or three academic semesters (spring, summer, and fall). My research partner (my committee chair) and I were participants and observers in each element of the study, during which we collected and contributed to data from a variety of sources and procedures for a sustained period of time.

### *Activities*

There were two distinct levels and two distinct sequences of activities, based on research in the applied and contextual social sciences, my research partner's and my teaching and learning experiences, and serendipitous discovery. Although the activities were conceptualized before the conducting the study, our constructivist approach allowed the activities to evolve during the year-long duration of the study.

### *Participants*

There was no attempt to randomize the samples or infer to larger populations. Participants were not assigned to specific groups to achieve power of analyses. Further, there were no incentives offered or provided to participants, outside of the opportunities available to students in similar courses.

Throughout the year-long (longitudinal) study, the distinction between the paradigms often blurred as my research partner and I constantly reflected on and debated the progression of the activities and participants. The constructive evolution of the activities and our attempt to naturalistically document the activities are often associated with an inductive approach. However, the distinct levels and sequences of activities in the quasi-experiment were conceptualized from a deductive approach. Based on the inclusion of many aspects of time, varying levels of activities in two sequences, and a variety of data collection methods in this study, I was not able to approach the study exclusively from either an inductive or a deductive perspective. Therefore, I considered the study to be an abductive, longitudinal, quasi-experiment.

#### *Abductive*

The proposed outcome of this inquiry was to understand how (depth) and when (sequence) students were engaged in learning experiences. Grounded theory, typically associated with the seminal and subsequent career works of Glaser and Strauss (1967), is both a method and its product. Specifically, grounded theory is a reciprocal process of collecting and analyzing data (*the process*) that leads to social scientific theory (*the product*; Charmaz, 2011).

The specific sources of data and the analyses used to address each research question will be included in subsequent sections of this chapter, as will my epistemological and ontological view of research and the world. However, design is often influenced by inclusion or exclusion of sources, types, analyses, and interpretation of data. Therefore, I believe it is important to specify that my abductive approach to



addressing the research questions spanned paradigms. Although grounded theory practice is often associated with qualitative inquiry, Charmaz (2011) noted that Glaser has consistently argued that researchers can use grounded theory practice for qualitative and quantitative inquiry. However, few researchers have used grounded theory practice for quantitative inquiry, to date (Charmaz, 2011). Glaser and Strauss (2011) specified that qualitative and quantitative data are both useful to generate and verify theory, and in many instances, both types of data are necessary.

Researchers have often cited using a grounded theory approach to engage with their data to create codes and raise questions about the connections they observe. However, Charmaz (2011) noted three naïve misunderstandings that may prevent researchers from capitalizing on the full analytic power of grounded theory: coding, theoretical sampling, and theory construction. a) To achieve the fundamental characteristics of grounded theory, researchers must simultaneously develop and question the hypotheses and connections created during the coding process. b) Theoretical sampling occurs after the data collection and analysis process begins—not before—and is guided by emergent theoretical categories and differences among categories. c) Many researchers have claimed to construct theory as an outcome of their studies, but most do not. Instead, much of their work is limited to advancing their direction toward constructing theory.

### *Longitudinal*

Time was the sparsest resource in this study. As Charmaz (2011) noted, analytic comparisons made in one phase of a study will shape the interactions with participants,

data, codes, and tentative categories of the subsequent phases. To be consistent with the fundamental characteristics of grounded theory practice, I needed the opportunity to engage in abductive reasoning to deeply understand as many theoretical accounts of the findings as possible. Because the proposed outcome of this inquiry was to understand depth of experience (shallow through deep) and sequence of experience (shallow to deep vs. deep to shallow), there was no feasible way to conduct this inquiry in less than one year.

Procedures for collecting and analyzing data were reviewed and approved by Texas A&M University's Human Subjects Protection Program, Institutional Review Board (IRB2011-0894M). Data collection activities were not restricted to specific times during the study. Also, types and sources of data were not segregated or eliminated because of arbitrary divisions created by researchers (qualitative versus quantitative). Instead, I considered all sources and types of data throughout the duration of the study. This is important because throughout the three academic semesters—spring 2015, summer 2015, and fall 2015—I continuously studied, deconstructed, and reconstructed data and my hypotheses from varying perspectives and in varying environments. For example, at times, I would observe the behaviors of individuals based on qualitative measures of personality (described later in the chapter); whereas, other times, I would observe behaviors and the reference quantitative measures of personality to help further develop my working hypotheses. I believe the constant process of conceptualizing, testing, verifying, and refining my findings could not have been achieved in less time. Admittedly, I will continue investigating and developing the theoretical outcomes of this

inquiry long beyond the duration of this study. However, one year was adequate for me to construct, challenge, deconstruct, and reconstruct more hypotheses than will ever fill the pages of this dissertation.

### *Quasi-experiment*

Researchers often associate *experiment* with systematic tests of deliberate manipulations that will ideally lead to an understanding of causation (Cook & Campbell, 1979). Randomized experiments are typically characterized by the random assignment of equivalent individuals to treatments in controlled environments and conditions. Quasi-experiments, however, do not require random assignment of individuals to treatments, yet a controlled environment is still necessary. Arguably, randomized experiments and quasi-experiments are seldom practical outside of a laboratory environment because resulting differences among the experimental groups could be due to extraneous influences. However, the conceptual approach to designing situations that help researchers understand how people behave under certain conditions is useful, nonetheless. Therefore, I used a quasi-experiment to understand how (depth) and when (sequence) students were engaged in learning experiences.

Drawing on the theoretical implications of Bandura's SCT (see Figure 1) and the conceptual framework (see Figure 2) I described in chapter 1, I included three primary concepts in this quasi-experiment: a) Personal determinants, including individuals' backgrounds, prior experiences, personalities, and learning styles; b) environmental determinants (i.e., duration, sequence, and depth of experience); and c) behavioral determinants (i.e., the observed behaviors of the individuals participating in this

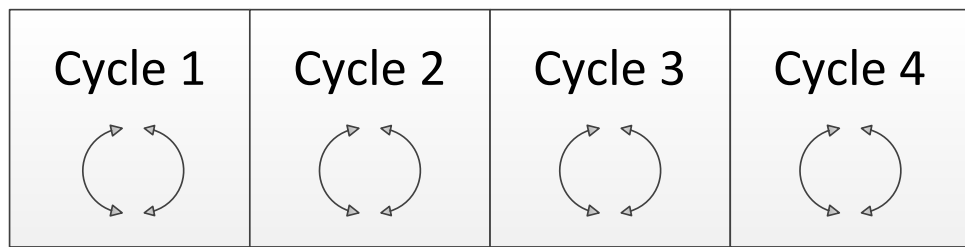
inquiry). Only the environmental determinants (duration, sequence and depth of experience) were manipulated for this quasi-experiment.

#### *Manipulation of Environmental Determinants*

The transition from child learning (pedagogy) to adult learning (andragogy), roles of students and teachers in the process of learning, and how experience affects learning have all been studied extensively and were considered in the design of this quasi-experiment.

#### *Duration*

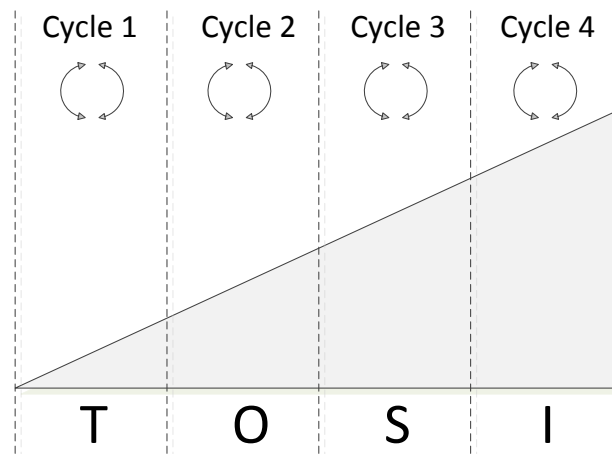
Kolb's (1984) model of experiential learning was a basis for conceptualizing learning as a cyclical process of stages. Kolb (1984) noted there were four unique stages in the experiential learning process, and although he did not specify a stage in which learners enter or exit the cycle, he did suggest repeating the cycle of experiential learning will often lead to greater levels of complexity. Conceptually, more cycles (increased duration of the learning process) would result in greater complexity. Therefore, a repeating cycle of activities, was included to increase the likelihood of students reaching greater levels of complexity (see Figure 3).



*Figure 3. Conceptual cycles of activities to increase complexity.*

## *Depth*

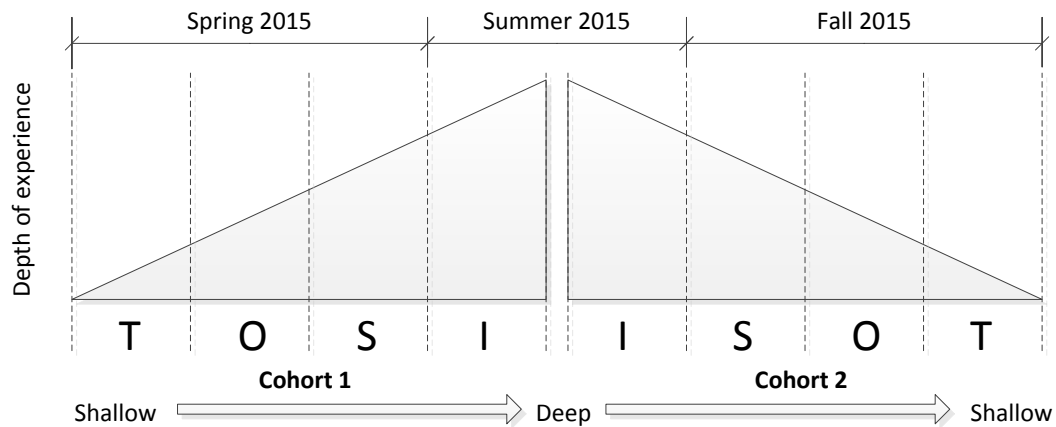
Depth of experience was conceptualized as a spectrum from shallow to deep. Teacher-directed, pedagogical experiences, typically facilitated in a traditional classroom lecture environment, were considered the shallowest of experiences. Conversely, self- or student-directed, andragogical experiences, typically facilitated off-campus in more of a real-world environment, were considered the deepest of experiences. I was not able to identify a widely-accepted model for depth of experience; therefore, I conceptualized a tentative model for depth of experience that will evolve throughout the course of this inquiry. In the most basic form, the depth of experience model is simply the spectrum of pedagogy to andragogy. The most teacher-directed environment is a lecture delivered in a traditional classroom. Conversely, the most self-directed environment is simply an agreed upon goal and purpose. Therefore, the depth of experience model begins with theory-based, classroom instruction (*T*), followed by observation-based instruction (*O*), simulation-based instruction (*S*), and then immersion-based instruction (*I*). I defined the shallowest experiences as pedagogical, primarily classroom-based experiences. Conversely, I defined deepest experiences as andragogical, primarily field-based experiences. The combination of the depth of experience (theory, observation, simulation, and immersion; TOSI) model added to the concept of cycles is illustrated in Figure 4.



*Figure 4. Increased depths of experience combined with cycle complexity.*

### *Sequence*

A fundamental concept of andragogy is adult learners draw on their previous experiences when learning new things (Knowles, 1980). Although college students are adults, the assumption that they all have equal or adequate experiences to draw from during the learning process may be misguided. Therefore, to understand the effects of sequence of experience (TOSI vs. ISOT), I observed two cohorts while they progressed through a sequence of experiences that increased (cohort 1 – shallow to deep) or decreased (cohort 2 – deep to shallow) in level of experience (see Figure 5).



*Figure 5. Two cohorts of experience (shallow to deep and deep to shallow) during the course of a year-long study.*

Each cohort was subdivided into two sub-cohorts (1A, 1B, 2A, and 2B) to observe individuals' behaviors in the deepest, most immersive, and self-directed levels of experience (see Figure 6). Students in cohorts 1A and 2A were observed during one long (14 week) academic semester and one short (5 week) academic semester. Students in cohorts 1B and 2B were enrolled only in one long (14 week) semester. During the short summer semester, students in cohorts 1A and 2A participated in an immersive field experience, which was considered the deepest level of experience.

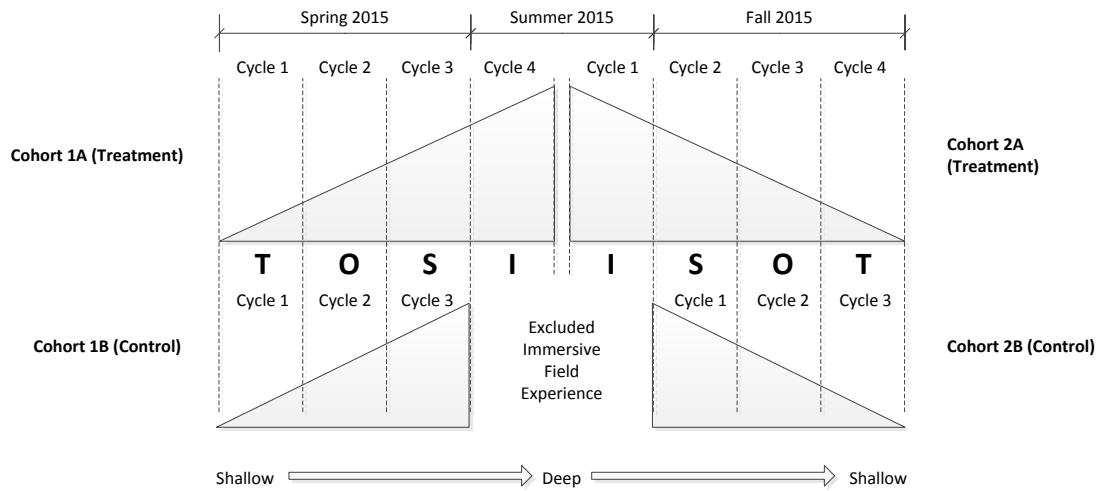


Figure 6. Cohorts 1 and 2 divided into sub-cohorts 1A, 1B, 2A, and 2B

### Participant Selection

Forty-two students, between 18 and 25 years of age, agreed to participate in this study after enrolling in an undergraduate research methods course. Courses were promoted university-wide, but participating students represented only four majors: one agricultural leadership development (ALED) student, two agricultural science (AGSC) students, 36 agricultural communications and journalism (AGCJ) students, and two students who were pursuing dual degrees--one in AGSC and animal science (ANSC), and one student who was pursuing dual degrees in ALED and ANSC. Students, six males and 38 females, self-selected into one of four cohorts (1A, 1B, 2A, or 2B) by choosing specific sections of the course.

### Expanded Research Questions and Objectives

Following are the research objectives, with corresponding research questions:

*RQ1:* How does depth of experience influence student engagement?



RO1.1: Describe student behavior by depth of experience (Theory, Observation, Simulation, and Immersion).

RO1.2: Compare student behavior by depth of experience (Theory, Observation, Simulation, and Immersion).

*RQ2: RQ2: Does the sequence of experience influence student engagement?*

RO2.1: Describe student behavior by sequence of experience (Cohort1A, Cohort1B, Cohort2A, and Cohort2B).

RO2.2: Compare student behavior by sequence of experience (Cohort1A, Cohort1B, Cohort2A, and Cohort2B).

### **Sources of Data**

#### *The Human Instrument*

Lincoln and Guba (1985) provided the characteristics that “qualify the human being as the instrument of choice for naturalistic inquiry” (p. 193). Unlike most quantitative instruments that measure specific factors, human beings are adaptable and “like a smart bomb, the human instrument can locate and strike a target without having been preprogrammed to do so” (Lincoln & Guba, 1985, pp. 193-194). Describing this study as void of quantitative measures or artifacts would be misleading. As the primary instrument of data collection, I viewed this process from a nonlinear perspective, but I also had the flexibility to use quantitative artifacts as sources of data. Data, regardless of method or source, were used to mold, adapt, and continuously calibrate the human instrument.

To develop an in-depth understanding, I collected qualitative data from student interviews, observations, reflexive journals, and dialogue. I collected quantitative data from four commercially available instruments and used those data as artifacts to further increase the credibility of findings through data triangulation (Lincoln & Guba, 1985).

### *Interviews*

I conducted semi-structured interviews with individual students before each semester and after the last day of each course. I followed an open-ended protocol using alternating descriptive, structural, and contrasting questions to allow flexibility to explore topics brought up during conversation (Spradley, 1979; Rubin & Rubin, 1995). Descriptive questions encouraged students to talk about their everyday lives and serve as the backbone of the interview. Structural questions helped me gain insight into the way students' organized information, reflected on experiences, and demonstrated personality. Additional contrast questions helped to construct a clearer understanding of a students' experiences in their own words (Spradley, 1979). Conducting face-to-face interviews with students provided me additional dimensions to make sense of non-verbal communication, facial expressions, and gestures (Jupp, 2006).

### *Observations*

Observations were made before, during, and after each class meeting and research meeting and during the entire field experience. Direct observation presented several advantages to understanding the setting and context of the study. As an active participant in the experience, I was able to capture interaction, be inductive, and learn about people beyond what they would divulge during the interview (Patton, 2009).

Observations brought my own perceptions to light as well as the perceptions of students as recorded in their reflexive journals. Interview data and observational data provided a more comprehensive view (Patton, 2009) to understand personal knowledge than interviews would have, alone.

### *Reflexive Journals*

In addition to my own journal, the reciprocal nature of this study required that my students keep reflexive journals to reflect critically on the “human as instrument” (Guba & Lincoln, 1981). Journals served as a reservoir for our thoughts, feelings, observations, and field notes. Together, we (my students, my research partner, and I) chronicled the learning process while calibrating our instruments through self-discovery and interrogation (Lincoln, Lynham, & Guba, 2011).

Reflexive journals provided insight to the distinctive voices each of us brought to the classroom and led to a greater understanding of the multiple perspectives that framed the learning process (Alcoff & Potter, 2013). No researcher can be completely objective in his or her data collection; therefore, precautions were taken to ensure the objectivity of data (Denzin & Lincoln, 2009). Example quotes accompanied the use of thick, rich description for transferability, which should enable others to make judgments about the degree of fit (Lincoln & Guba, 1986).

### *Dialogue*

Students were encouraged to engage in a constant exchange of ideas and thoughts in a reciprocal process that served as both a source of data and method of learning. Specific attention was given to Socratic dialogue to help unlock implicit ways

of thinking and insights not previously explored by the group (Given, 2008). Many times, our Socratic sessions would occur spontaneously outside of the bounds of our class meetings and usually near a white board. Our concepts, models, and brainstorming were captured in photos to visually recall and interpret the experience along the way (see appendix).

### **Quantitative Artifacts**

During this study, I wanted to be aware of aspects of students' critical thinking abilities, personalities, learning styles, and emotional intelligences. Therefore, I used four quantitative instruments to understand one aspect of students' critical thinking, personality, learning style, emotional intelligence: a) Watson-Glaser™ II Critical Thinking Appraisal; b) Emotional Intelligence Assessment 2.0; c) Myers-Briggs Personality Type Indicator; and d) Kolb Learning Style Inventory 3.2. I considered the quantitative measures of each student as additional, overlapping sources of data to compare individual and group behaviors. I describe each instrument briefly in this section, and a more expansive description is included in the appendix.

#### *Watson-Glaser™ II Critical Thinking Appraisal*

Critical thinking can be conceptualized as a composite of attitudes, knowledge, and skills (Watson & Glaser, 1994). Several standardized critical thinking skill tests are widely-noted in literature, including the Watson–Glaser Critical Thinking Appraisal, the Cornell Critical Thinking Test, the California Critical Thinking Skill Test, and the Test of Critical Thinking; each test consists of multiple sub-scales that purportedly measure critical thinking as a single latent variable (Bernard, Zhang, Abrami, Sicoly,

Borokhovski, & Surkes, 2008). However, “the Watson–Glaser Critical Thinking Appraisal is the oldest and among the most widely used and studied [critical thinking] measure” (Bernard et al., 2008, p. 15).

#### *Emotional Intelligence Appraisal®*

Emotional intelligence (EQ) is best described as the ability to recognize, understand, and use emotions effectively (Mayer, Salovey, Caruso, & Sitarenios, 2001). Goleman (1998) introduced a comprehensive model of EQ to conceptualize a wide array of competencies and skills that drive leadership performance. Developed in 2001, the commercially available Emotional Intelligence Appraisal (EQA®) is a self-reported, skill-based, and 360-degree measure developed to provide an estimate of EQ skills and abilities (Bradberry & Su, 2003).

#### *Myers Briggs Personality Type Indicator®*

The Myers Briggs Personality Type Indicator (MBTI®) was developed more than fifty years ago by the mother-daughter team of Myers and Briggs to make the insights of Carl Jung accessible for use in everyday life (Briggs-Myers, 1985). Jung, in 1928, described his theory of psychological types. He suggested seemingly random human behavior is actually quite consistent and orderly, and can be understood through basic differences in the use of individual perception and judgement (Myers, 1962).

#### *Kolb Learning Style Inventory®*

The commercially-available, paper version of the *Kolb Learning Style Inventory®* (KLSI®; Kolb & Kolb, 2005; version 3.2) was also used to collect data for this study. According to Kolb and Kolb (2005), the KLSI® was created to understand how

individuals learn from experience and the approaches they take in the learning process. By understanding their own learning processes, learners are more equipped to make the best decisions that will enhance their abilities to learn in different learning styles (Kolb & Kolb, 2005). Kolb and Kolb (2005) identified an additional use of the KLSI<sup>®</sup> as “a research tool for investigating experiential learning theory (ELT) and the characteristics of individual learning styles” (p. 8).

#### *Data Collection Overview*

A summary of the points of time and types of data collected in this study are illustrated in Figure 7.

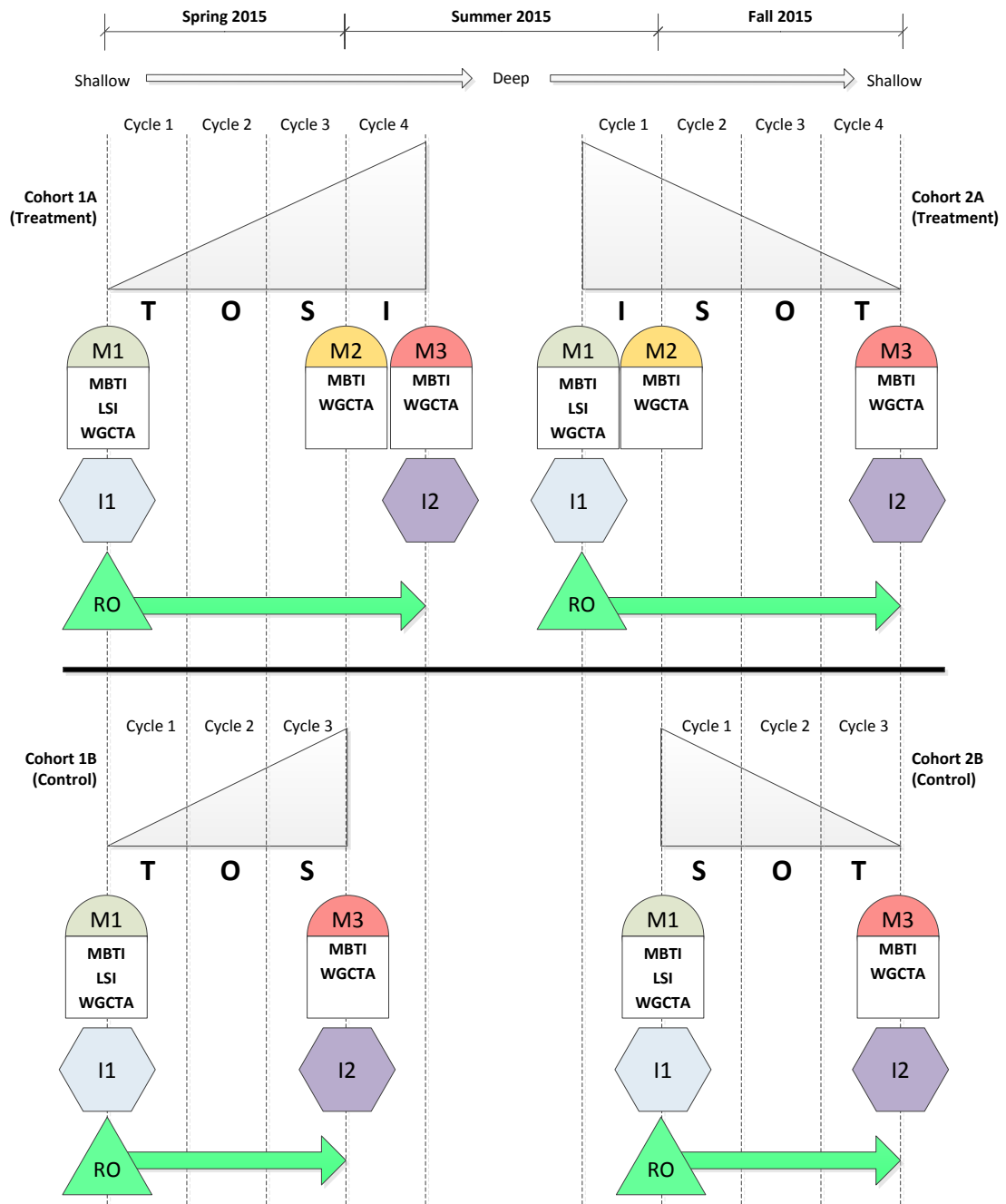


Figure 7. Points of time and types of data collected in this study.

## **Data Analysis Procedures**

Interviews, observations, reflective journals, and dialogue served as the primary sources of data during analysis with previously mentioned instruments (MBTI, WG CTA, LSI, and EQ). Interpretations will provide descriptions and comparisons of individual and group behavior by depth and sequence.

Pre-interviews and data from four quantitative instruments (MBTI, WG CTA, LSI, and EQ) were used to inform my initial understanding of students' personal characteristics (*P*) at the beginning of the study and provided structure to analyze student behavior (*B*) in research questions one and two. Interviews, observations, and reflexive notebooks were used to describe and compare individual students' behavior (RQ1) in each of the sequences and depths of experience. Observations and reflexive notebooks were used to describe and compare student cohorts (RQ2) in each of the sequences and depths of experience. Post-experience scores from the four previously mentioned instruments (MBTI, WG CTA, LSI, and EQ) were also referenced as artifacts to understand student behavior in reference to research question two.

### *Data Coding*

Although this was a case study, I participated in each element and activity of this study, which I believe meets the qualifications for ethnographic research. The complex task of understanding ethnographic data lies in the ability to condense mass amounts and sources of data (Merriam, 1998). To prepare for analysis, I first organized data by student and cohort. I originally approached coding in a very inductive manner, using in vivo coding, descriptive codes, and deductive codes based on the theoretical framework



of social cognitive theory (Miles & Huberman, 1994). However, data began to clearly align with all three preexisting categories (personal, behavioral, and environmental) of the social cognitive theory framework. I cannot be sure I would have observed the same categories if I was not aware of Bandura's (1986) work, but I did not purposely begin to sort data into personal, behavioral, and environmental determinants.

As I inductively analyzed and coded data, I created additional codes to describe unexpected elements that emerged. The need to understand student behavior in a more three-dimensional way resulted in additional codes to break down elements of the conceptual framework. Personal (*P*) determinants were coded for personality, learning style, critical thinking ability, emotional intelligence, and background experience. Environmental (*E*) determinants were coded by depth (cohorts 1A, 1B, 2A, 2B) and sequence of experience (TOSI vs ISOT). Because behavioral (*B*) determinants were the focus of this study, codes for personal (*P*) and environmental (*E*) determinants were combined to understand the interdependent nature of people, their environment, and resulting behaviors. For example, codes to help understand an emotional breakdown a student had during a four-hour experience in Chinatown might be analyzed with codes for emotional intelligence and background experience with immersion in Cohort 2A. All codes were used to describe and compare individual student behaviors (RQ1) and describe and compare student cohorts (RQ2). Finally, data were analyzed by codes and condensed into categories to interpret findings for meaning.

## **Trustworthiness of Findings**

Lincoln and Guba (1985) outlined techniques for establishing trustworthiness to ensure findings are reached in a systematic and disciplined manner. Trustworthiness techniques mirror evaluation criteria found in quantitative research and provide increased “inspectability” of data and findings. Techniques included credibility (internal validity), transferability (external validity), dependability (reliability), and confirmability (replicability). I used multiple techniques to enhance trustworthiness of findings including prolonged engagement, persistent observation, triangulation, audit trail, peer-debriefing, member-checks, reflexivity, and thick, rich description. Each will be described here, in detail, and again in each relevant section.

### *Dependability*

Multiple methods (interview, observation, reflexive journaling, dialogue, and quantitative instruments) were used for methodological triangulation to cross-validate with over-lapping data.

### *Credibility*

This study is the product of an immersive, ethnographic experience that included prolonged and persistent observation over the course of one year. At the conclusion of this study, data were extracted from more than two hundred hours of interviews, four cohorts, and six hours of class per week (two courses, three times per week during spring and fall semesters), additional research meetings, conversations, and informal interactions of unknown amounts of time, and six weeks of immersive field experience.

Data were also gathered from the forty-two students included in this study to increase credibility with source triangulation.

Because of the dialectic nature of the study, peer debriefing and member checks were conducted simultaneously during daily interactions with students in the course. Additionally, I met with my faculty advisor, who was also my co-teacher and research partner, at the end of each week to discuss data, codes, and findings. During our discourse, issues of research design, course logistics, and other critical questions were addressed. At times we agreed on how we were interpreting data; however, we also disagreed on our interpretations, which often led to weeks of debates.

### *Confirmability*

Extensive records (reflexive journals, sketchbooks, digital pictures of conceptual designs and models, and additional process and personal notes) were kept for confirmability and constant comparison of significant statements, codes, and emergent themes during data collection and analyses. In addition to my own journal, the nature of this study provided that my students keep reflexive journals to reflect critically on the “human as instrument” (Guba & Lincoln, 1981). Journals served as a reservoir for thoughts, feelings, observations, and field notes. Together, my students and I chronicled the learning process while calibrating our instruments through self-discovery and interrogation (Lincoln, Lynham, & Guba, 2011). Due to the large amount of data acquired during this study, a coding structure was used to develop a detailed audit trail and is as follows:

Student data:

1. Student participant code (01 - 042)
2. Student cohort (1A, 1B, 2A, 2B).
3. Source of student data (BR = Black and Red notebook, SB = Sketchbook) In the case a student filled up more than one of these notebooks during the course of the study, a number was assigned to identify the exact source.
4. Page number associated with source = (001 – 175)

*Student data example: 014\_1B\_BR2\_079*

Teacher data:

1. Research activity (FN = Fieldnote).
2. Source of teacher data ((BR = Black and Red notebook, SB = Sketchbook) In the case I filled up more than one notebook during the course of the study, a number was assigned to identify the exact source.
3. Page number associated with source = (001 – 175)

*Teacher data example: FN\_BR3\_104*

### *Transferability*

Example quotes accompanied the use of thick, rich description for transferability and allow others to make judgments about the degree of fit. To demonstrate the applicability of findings of the study to other contexts, thick, rich description was gathered from detailed transcripts, teacher and student journals, and additional records.

## **Locating the Researcher**

The methods chosen for this study were a reflection of two distinct worldviews and representative of the two mentors who guided me through this process—brilliant minds who are as far apart as the day is long. The choice to complete an ethnographic case study and serve as the human instrument with quantitative artifacts “mixed” their thoughts together and provided a holistic perspective to the study. This convergence was, at times, enlightening, but also created an internal struggle along the way. The truth is, I had a hard time living in two worlds at once, and the shift from one to another sometimes complicated my inquiry. I believe this struggle, while chaotic, to be a foundational shift in understanding my worldview, bringing it into focus, and allowing me space to grow as a researcher—beyond the thoughts and beliefs of my mentors.

With that said, please let me express my worldview by addressing the fundamental questions of ontology, epistemology, and methodology that have developed and provided clarity to this study:

1. The question of ontology (the nature of reality and what can be known, or more specifically, the way I see the world). I do not believe reality exists in an objective world beyond our control. I cannot find meaning in human experience without experiencing the socially-constructed nature of our existence; I do not have the capacity.

2. The question of epistemology (the relationship between the knower and the known, or what it means for me “to know”). The simple idea of knowing what truths must be known beforehand, gives me the hives. I inherently believe universal truths most

definitely exist, but I cannot simply know what others know to be true. I believe living is in the search for truth, not knowing it.

3. The question of methodology (how the knower discovers what can be known, or how I construct knowledge). I believe a good researcher uses whatever methods are necessary to understand the problem; however, I also feel that the most honest strategy combines our chosen methods with our worldview. To be honest, I have a difficult time with searching for knowledge at my desk; the science of the social world is best when engaging with multiple perspectives both logically *and* with a heart wide-open.

By outlining the fundamental axioms of the naturalistic-constructivist paradigm, one might consider this study to be emergent in nature, for “the path of discovery is not clearly marked, nor should it be” (Thorp, 2001, p. 37). “It is inconceivable that enough could be known ahead of time about the many realities to devise the design adequately” (Lincoln & Guba, 1985, p. 41); therefore, the power of this design rests in what may be perceived as weakness, so that I may be more receptive, nimble, and adaptable to the emerging phenomenon (Thorp, 2001). There is beauty in research that embraces the complex and unpredictable nature of people and social interaction. I appreciate the form of more hyper-focused research, but no longer feel tied to the constraints of design in terms of function (Richardson, 1997). This study thrived in ambiguity and transformed during moments of serendipity without losing its integrity in terms of design.

### **Context of the Study**

The context of research methods is important to understand the subject used to understand student engagement in an experiential sequence; however, it is not central to

the overall study. Undergraduate research was chosen because of my experience in a mixed (graduate and undergraduate) section of the course the year before. All of us, undergraduate and graduate students, struggled learning new research methods during this course, but graduate and undergraduate approaches were very different. More often than not, the graduate students referenced previous work experiences to understand new information, while undergraduates struggled to connect. My new perspective of depth and sequence of real-world experience was fundamental to the conceptualization and development of this study.

Because the context of the course was also focused on student engagement, it is important to note that students served as both participants and researchers. Specific learning objectives were aimed at developing students' abilities to access information, think critically, and present and support reasoned arguments. However, students studied engagement by evaluating theories, collecting data from other populations, while also being introspective about their own engagement in the course. Students were challenged to document what they think, feel, and do to reach justifiable and balanced conclusions about student engagement.

### **The Cast of Characters**

Any story is only as good as its characters, and this one has quite a few. Although dissertations traditionally include subject characteristics, the forty-two students described here were more than data - they were my research partners. Each student brought a unique perspective and background to the process and has been integral to the growth and development of this study. I briefly described student characteristics earlier

in this study (by age, gender, and major), but have provided additional data concerning personality (MBTI) by cohort (tables 1 and 2) and learning styles (KLSI) by cohort (table 3) as a point of information. This data was not used for statistical analysis, but as a way to understand individual student behaviors and interactions between students.

*Table 3.*  
*Student MBTI Type by Cohort*

	1A		1B		2A		2B		All Cohorts	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
ISTJ	--	0.00	--	0.00	1	14.29	1	8.33	2	4.76
ISTP	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00
INTJ	--	0.00	1	7.14	--	0.00	1	8.33	2	4.76
INTP	--	0.00	--	0.00	--	0.00	1	8.33	1	2.38
ISFJ	2	22.22	--	0.00	--	0.00	--	0.00	2	4.76
ISFP	--	0.00	--	0.00	--	0.00	--	0.00	--	0.00
INFJ	--	0.00	--	0.00	1	14.29	--	0.00	1	2.38
INFP	2	22.22	--	0.00	--	0.00	1	8.33	3	7.14
ESTJ	2	22.22	3	21.43	--	0.00	1	8.33	6	14.29
ESTP	1	11.11	--	0.00	1	14.29	--	0.00	2	4.76
ENTJ	--	0.00	1	7.14	1	14.29	--	0.00	2	4.76
ENTP	--	0.00	1	7.14	--	0.00	--	0.00	1	2.38
ESFJ	--	0.00	2	14.29	1	14.29	2	16.66	5	11.90
ESFP	--	0.00	2	14.29	1	14.29	--	0.00	3	7.14
ENFJ	--	0.00	1	7.14	1	14.29	1	8.33	3	7.14
ENFP	2	22.22	3	21.43	--	0.00	4	33.33	9	21.42
Total	9	100.00	14	100.00	7	100.00	12	100.00	42	100.00

*Note.* Columns represent the frequency and percentage of MBTI type within individual cohorts (1A, 1B, 2A, 2B) and rows represent the frequency and percentage of MBTI type with cohorts combined.



Table 4.  
Student KLSI by Cohort

	1A		1B		2A		2B		All Cohorts	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
AC	--	0.00	--	0.00	--	0.00	3	25.00	3	7.14
RO	3	33.33	--	0.00	--	0.00	2	16.67	5	11.90
AE	3	33.33	9	64.29	6	85.71	7	58.33	25	59.52
CE	3	33.33	5	35.71	1	14.29	--	0.00	9	21.43
Total	9	100.00	14	100.00	7	100.00	12	100.00	42	100.00

*Note.* AC = Abstract Conceptualism, RO = Reflective Observation, AE = Active Experimentation, CE = Concrete Experience. Columns represent the frequency and percentage of KLSI within individual cohorts (1A, 1B, 2A, 2B) and rows represent the frequency and percentage of KLSI with cohorts combined.

## **CHAPTER IV**

### **FINDINGS**

#### **Summary**

Findings in this chapter include summaries of prolonged observations in our classroom and during field experiences, student reflection journals, classroom dialogue, and my own personal reflections throughout the process. Because I cannot untangle that I was also a student during the course of this study, my personal reflections are fundamental to understanding the growth I experienced as a researcher, my interpretation of the data provided by each student, and the on-going process of theory construction.

In addition to my personal growth, I also need to acknowledge the evolution of the study. I conceptualized and designed this study as a quasi-experiment in an in vitro environment. As the term quasi-experiment implied, the initial purpose was to compare how (depth) and when (sequence) students were engaged in learning experiences in an undergraduate research methods course. Although I implemented the depth and sequence elements of the study, I struggled to adhere to the design of the study in an in vivo environment. Consequently, I realized there was a greater need to focus on holistically describing the effects of depth and sequence of experiences on the students and teachers, than comparing them dichotomously (e.g., cohort 1 versus cohort 2). Therefore, I presented the findings in the order they emerged because it was my intention to tell a story I believed to be important to both the research and practice of teaching and learning.

## **Words are Hard**

### *Native Language*

I began this process in search of a way to make learning research more engaging for undergraduate students. After considering various methods of classroom engagement, my teaching partner and I decided to forgo traditional teaching methods by avoiding the use of research terminology in class. Instead, we agreed to use common language to allow students to discover terms on their own and attach those words to experiences as they came about. For me, it was pretty easy to adhere to our native language because research terminology was still new to my everyday vocabulary. However, my partner had been using research jargon for eight years and the transition was often difficult. *Words are Hard* quickly became a classroom hash tag and constant reminder to communicate in a way our students understand.

### *Research as a Second Language*

The hashtag, #wordsarehard, became a fun “game” for our students. Our open and transparent process left very few things unsaid in our classroom, and students quickly caught on to the struggle we were experiencing with words. For students, myself included, research was a second language and “unlocking” new words was exciting... at first. For example, after observing other Texas A&M University students at various locations on campus, our students began to describe the various behaviors, environments, and personal characteristics they had observed. As one student wrote in his journal, “Yopp gets so excited when we figure things out. I need to Google ‘Social Cognitive Theory’” (07\_BR1\_1A\_014). My journal entry echoed their observation that

day. *FN\_BR1\_029: It's working! It's really working! #wordsarehard #proudteacher.* I was motivated to provide them with experiences and attach terminology after they understood meaning. It seemed a little crazy, but research was becoming our second language and after years of learning terms just to pass a test, I was interested in knowing how they became a more permanent part of our vocabulary.

### *Language Acquisition through Experience*

As time passed, words including “sample,” “instrument,” and “analysis” started to creep into our classroom discussions. Instead of discussing what might occur during an observation, interview, or face-to-face survey, students experienced issues first-hand and shared their successes and failures with our class. The chance to rifle through their experiences made it easier to share new terminology as we evaluated the process of understanding people. Although students seemed to be refreshed (or maybe just relieved) by the lack of terminology, a few also expressed a bit of confusion and annoyance with the process. One student was hesitant to speak up in class, but wrote “How is observing some people at the MSC relevant to any kind of actual research” (013\_1B\_BR1\_018) in her journal. Another student wrote, “Just give [the terms] to me. I know how to do research! I’m tired of waiting around for you to give me information” (06\_BR1\_1A\_027). I wanted to understand their point of view, but was first irritated with their impatience. After returning to interview and preliminary data, I started to see the shared connection. Both students (sharing these frustrations) were double majors in animal science and predisposed to research in the basic sciences. In a way, they were ahead of the rest of the class (and always would be), but reflections provided more

insight as each progressed. One wrote, “Observations seemed like useless collections of information. I now see it was the beginning of understanding a larger process”

(013\_1B\_BR1\_018).

### *Native Language Attrition*

Much to my surprise, as students gained efficacy with research terminology, I did too. Soon, my normal contributions to office banter were replaced with “what’s your unit of analysis,” and “what if we used a different conceptual framework?” I noted this transition after reflecting on time back home with friends. *FN\_BR3\_062: When will I realize that not every lunch requires #researchtalk? I’m blabbering. THEY DO NOT CARE. Obnoxious!* I found that it only got worse as time went on. Research permeated my every interaction from my first cup of coffee in the morning to the ideas I sent as text messages before bed. As the days passed, phone calls with my mom became more difficult and I could no longer explain to her what I had been up to. My “research buds” shared Piled Higher and Deeper (Ph.D.) comics on my Facebook wall poking fun at the phenomena, but I had a hard time finding humor in our shared experience.

*FN\_BR3\_079: So much for being a great communicator! Might as well live under a rock.* Because I had surrounded myself with peers in the same situation, the issue didn’t really become a problem until a new crop of students began the second phase of this study. Everything I prided myself on was slipping away. *FN\_SB2\_012: Why can’t I connect with them? ☹ #iteach? #lexicon #transitioncomplete.*

### *Lost in Translation*

In almost an inability to remember what it was like to struggle with the research process, I found it more difficult to engage the final two cohorts of students like the first. The reverse sequence front-loaded the classroom experience of Cohorts 2A and 2B with words in a different way. Although Cohort 2A had a deeper understanding of the process because of their immersive experience, Cohort 2B seemed lost at times. FN\_BR3\_104: There's a gap between 2A and 2B that I don't really understand quite yet. They are struggling. How do I make this better? I'm at a loss here. It seemed my newfound connection to research terminology and the process of doing research left it difficult for me to connect student learning to new experiences and new experiences to student learning. The first cohorts seemed to embrace new terms because they were anxious to finally get them. They anticipated them. They wanted them. The second cohorts (2A and 2B), however, didn't seem to make connections in the same way. In some cases, the words seemed to pass by the experiences as if students were simply going through the motions. More times than I would like to admit, students wrote things like, "is she even talking to me?" or "I'm over trying to understand this class." It hurt, but they were right. I was speaking a foreign language and oblivious that my connection was lost somewhere in translation.

### **Just Trust Me**

As a student and graduate assistant for three semesters prior to the development of this study, I observed my mentor and teaching partner instruct research methods. His teaching methods were unconventional yet engaging and students were drawn to the opportunity to express their thoughts and opinions openly without repercussion. I was

hesitant, at first, to accept this method, as noted in one of my first journal entries in 2014, “Seems like a trick. I don’t think he REALLY wants to know what I’m thinking.” However, I soon found his classroom approach to be refreshing and adopted the method as a part of my teaching philosophy. This study was strengthened by the concept of openness and honesty (sometimes painfully so), but, as one might imagine, trust didn’t come overnight.

### *Dichotomies Emerge*

Not long after we transitioned into the observation phase of the first sequence, students began to separate into two clearly recognizable groups: the ones who beg for directions and the ones who don’t actually read them. At first glance, one might dismiss this categorization by considering the first group as serious students who care about their studies and writing off the second as students who “fly by the seat of their pants.” And prior to this study, I would have completely agreed. However, once I took a closer look, these groups seemed a bit more complex, but I will describe them here (with data from all cohorts) in the way they originally emerged.

### *Details vs. The Big Picture*

My teaching style is unlikely to ever be described as highly-structured or rigid, especially when compared to many of my colleagues. This difference was most obvious when some students began to take issue with my lack of strict deadlines and lengthy assignment summaries. “I’m not a mind reader. Just tell me what to do and when” (22\_1B\_SB1\_039). I had experienced students’ uneasiness before, but the need to know every single detail became overwhelming and I began responding with, “don’t worry,

just trust me.” Some students were visibly annoyed with the lack of rubrics associated with assignments. One wrote, “This is impossible. I have no way to understand what they want me to do” (37\_1B\_SB1\_013). In contrast, others loved the intentional ambiguity. “You had me at be creative! I’m already brainstorming ways this can take shape” (27\_2A\_BR2\_049). When working together in teams, one student expressed frustration with another’s need for structure. “Some people are getting bogged down by details that don’t matter” (07\_1B\_BR1\_054).

The more detail-oriented group of students seemed to relax as the semester went along, gaining more comfort in their “discomfort” of not knowing. Students in Cohort 2A were comfortable more quickly, leaving questions concerning the amount of time spent in an immersive type of experience versus a one-hour class, three times per week. However, many in Cohort 2A returned to their original level of discomfort once back in the structured classroom environment of the fall semester. *FN\_BR3\_22: [Student]’s anxiety is at an all-time high. What happened?* Although it was not clear to me at the time, these two groups would continue to have many other things in common, and I will discuss the ways they divided into smaller groups later in this chapter.

I would not be telling the whole story if I did not also include how much I loved reading things including, “this class teaches you how to think – not what to think” (07\_1B\_BR1\_034). My bias toward an unstructured and constructivist learning environment clouded my characterization of the students drawn to a more detailed teaching style. *FN\_BR1\_052: Some students would be a lot happier if I spoon-fed them the information. I don’t see the value.* I also found myself identifying with students when



reading through their reflection journals. For example, when the phrase “just trust me” changed in perspective. “I know they are teaching me to think for myself, maybe I should just trust ME?” (03\_1B\_BR1\_56). *FN\_SB2\_028: Maybe we are on the right track? Maybe I’m learning to “trust me,” too?*

### *Trust Begins in the Classroom*

The notion that teachers need a classroom to establish trust was contrary to everything I believed about teaching and learning. I fought the idea that four walls and desks created an “educational setting,” but could not ignore the value once it was no longer there. Cohorts 1A, 1B and 2B all began learning in a classroom and experienced issues with trust, but none that I attributed to the physical setting of our classroom. On the other hand, Cohort 2A began the learning process on the west coast during an immersive field experience. Instead of having class in the confines of a university classroom, we met in the informal setting of our accommodations, where things became more difficult. “Just trust me,” was no longer an acceptable phrase for me to use when hit with a battery of questions. *FN\_BR3\_004: Trust me? I suppose I haven’t given them a reason to.*

Initially, I was bothered by the way students already trusted my teaching partner, which I attributed to the abbreviation of “Dr.” in front of his name. However, I discovered that most of the students in Cohort 2A had previously taken a course with [teaching partner] and already established a level of trust, in a traditional classroom. Cohort 2A’s reflection journals most notably archived this difference by failing to acknowledge that I even existed for almost a week. It’s reasonable to think, “she

obviously had an inferiority complex and read too far into their reflections.” In full disclosure, that’s entirely possible. As a teacher, I considered a million reasons for this to be the case, but could only draw insight from our discussions, my observations, and the general shift in the way students acknowledged me (in person and in their journals) as they transitioned back to the classroom setting in the fall.

### **The Social Transmission of Motivation**

**con•ta•gion** (*n.*): the rapid communication of an influence as a doctrine or emotional state (contagion, n.d.)

There were no real differences in general student interest in research during the first stages of either process (TOSI or ISOT), and levels of interest remained stable until students gained more experience and/or made sense of the experiences they brought into this course. Classroom topics including personality types and learning styles seemed to peak their interest most, but the act of *doing* research was much more intriguing.

Comments or entries including, “I am so excited about personalities.

#peopleareinteresting” (012\_1B\_BR1\_018) and “I can’t wait to actually talk to people and understand how [personalities] interact!” (028\_2A\_BR1\_011) were common in journals and classroom dialogue.

The differences between interest and motivation became evident as students began working together in teams. Until then, interest and motivation seemed to be linked and difficult to piece apart by observation. *FN\_BR2\_034: If interest is based on the individual student, motivation must be the factor that is most influenced by external*

*conditions, right? Students (myself included) are easily influenced by almost ANYTHING in their environment. #millennialprobs.* Before I could process this concept, field notes on motivation invaded my observations and took on a life of their own.

### *Domination*

I've always been interested in group dynamics and, as a teacher, I enjoy watching leaders emerge during group activities. With that in mind, my teaching partner and I created vague guidelines for developing groups with the thought authentic leadership would emerge—and it did, just not at first. Instead, we watched students grab at power like dictators and quickly dominate the process. *FN\_BR2\_041: There's a new sheriff in town, y'all. Is he even listening to their ideas? Why aren't they contributing to the conversation?* *FN\_BR2\_043: [Student] is obviously running the show and her teammates don't seem too happy about it.* *FN\_BR2\_045: Why is this happening? Did stronger personalities prevail? Why didn't [student] take on a leadership role? Why are they being so quiet?* The silence of other team members was deafening, but student journals spoke volumes for their collective distaste for this style of leadership. “Stop overpowering my ideas [student leader]! #thisisntaboutyou” (02\_1A\_BR1\_024). “Fine, take credit for everything I do! I'll just step back and be your minion” (12\_1B\_BR1\_038). I still had difficulty understanding why they (students) might allow this to happen, but the demotivation and loss of interest was almost heartbreaking when one wrote, “Brain: Speak! Me: I can't. Brain: It doesn't matter. [The leader] doesn't care. ☹” (02\_1A\_BR1\_028).

### *Competition*

My teaching partner and I also developed a sense of competition between teams to increase motivation. As predicted, the less motivated groups stepped-up their game as more “gung-ho” teams emerged with ideas and plans. However, competition proved to be an equally demotivating tool for student engagement. “They [teachers] really like the other team’s model. Why do we even try? #imdone” (15\_1B\_BR1\_051). *FN\_BR2\_058: [Team] is already giving up. How do I help them? Should I help them or let them work it out on their own?* We spent the next week waiting for the team to make a comeback, but to no avail. Instead, my teaching partner and I watched as all groups experienced internal meltdowns and completely reorganized. Outside of class, the original leaders lost interest as team motivation slumped and more authentic leaders emerged with a new idea to bring teams together. “Finally! [Student] always had the best ideas and actually wants my input. Way to step up, girl!” (21\_1A\_BR1\_042). Competition was alive and motivating (some) students in a very different way.

#### *Negativity Screams and Positivity Whispers*

Although students seemed to be back on track toward the goal, the original leaders were not going to simply go along with a new, more inclusive vision. When asked about their participation in the new plan, one of the original leaders responded, “It’s a stupid idea and I have a hard time seeing how it will work. [Student] and [student] agree that we should have never combined groups” (FN\_BR2\_063). This student’s interest in being in charge seemed to be more motivating than completing the project and culminated with some pretty ugly remarks made to his classmates in an online Facebook group. The very loud and negative opposition was contagious and started pulling other

students over to their lonely island of demotivation. A quieter, more positive faction of students attempted (both online and in-person) to motivate the group, but had less success in bringing their peers back from “the point of no return” (20\_1B\_BR1\_067). As a teacher, I was both disappointed and captivated by the ability of a few to tank the motivation of a project. But, then again, was I really? *FN\_SB1\_073: Negative Nancy’s win again! Life mimicking art? Or research mimicking life? You know what I mean.*

## **Gut Punch: Cognitive Dissonance and Reciprocal Engagement**

“How can you expect me (student) to be engaged when you (teachers) aren’t?”  
(16\_1B\_BR1\_064)

*Owww*

*FN\_BR2\_084: Stop the bus. What did she just say? Are you kidding me? I have no recollection of what I said in response to [student] that day, but was I completely taken aback by her comment. We had intentionally built an environment where students could feel comfortable saying things like this, but I doubt my response was indicative of that effort. I was angry. FN\_BR2\_084: I’m giving everything I’ve got over here. Who do they think they are? I spent the next few hours sitting at my desk ruminating on the remark. I started to wonder if we had given students too much power in our classroom. FN\_BR2\_085: This is why structure is important. She would never say that to [faculty member]. My rant continued on the next two pages and finally subsided with a final thought. FN\_BR2\_087: Oh, wait. I told her to do that.*

### *Pivotal Reflection*

The original remark about our (teachers’) perceived level of engagement resonated in eleven other student journals (all but two of the students present that day). Students began to question our general level of interest and motivation in the course. It was pivotal. I spent weeks (and months, really) thinking about how many times I teach students to do one thing, while modeling a completely different behavior. I also considered the many times I observed this type of behavior from my own teachers and mentors. This insight became a magnifying glass, of sorts, and I began examining almost all of my interactions. Could something as simple as “walking the walk and talking the

talk” be paramount to this study? *FN\_BR3\_012: “Do as I say, not as I do.” Dad’s old mantra is coming back to haunt me.*

Although my reflection may seem trivial, to me it was revelatory. This study was designed to understand students and the experiences that engage them in learning, but all the while, I may have been looking in the wrong direction. I literally told them (on the first day of class) I wanted to find a new way. I told them I believed engagement to be a two-way process and I wanted their open and honest feedback. Yet, there I was ignoring my own levels of engagement in our course. [Student] provided the one piece of information that changed the way I considered this study, twelve little words that wracked my brain for months.

**cog•ni•tive dis•so•nance** (*n.*): mental stress or discomfort experienced when one holds two or more contradictory beliefs, ideas, or values at the same time  
(cognitive dissonance, n.d.)

## **The Struggle with Safety Nets**

The opportunity to watch students develop in a sequential way during the first phase of this study provided a point of reference to “disassemble” the process (in a backwards way). With the tenants of adult learning built into the design of the study, it was our intent to gradually decrease the number of safety nets provided during Cohorts 1A and 1B, and increase safety nets for Cohorts 2A and 2B.

### *Adult Learning*

Following along with the transparent environment we created, we also frequently discussed the differences between pedagogy and adult learning (andragogy). Although seemingly bothered by the idea of learning like an adult (when they thought they always had), they took hold of the idea, in theory. However, the practice of reducing or increasing the number of safety nets provided during this process became a difficult task, for both students and teachers.

### *Challenge ME*

“Bring it on! I’ve never been challenged like this!” (12\_1B\_BR1\_051). Students enjoyed the experience of learning something new and sought information in ways I wouldn’t have expected. It was almost as though the content was engaging because they didn’t have much experience with it before, and also because many of the questions we posed were purposely left unanswered. “In most classes, professors ask questions with obvious answers. Here, I have to dig for it, and it’s fun” (21\_1B\_BR1\_36). Their excitement for learning would have easily helped us answer the questions in this study, that is, if those levels remained the same.



## *Help ME*

Student interest and motivation in this course followed a relatively unpredictable pattern of behavior. At times, the same students who were intrigued by challenges also expressed their discontent. “If [Yopp] says, where can you find this information ONE. MORE. TIME. Just give me the answer! It’s your job!” (12\_1B\_BR1\_079). Student engagement was, at times, short-lived and varied day to day. It was frustrating, but brought out questions of how everyone experiences challenges in different ways.

*FN\_BR2\_39: Have they ever really been challenged? Have I? How do I understand challenge in terms of its relative value?*

*Catch. Release. Repeat.*

*FN\_BR3\_027: Just because we tell them they are supposed to be learning like adults, doesn’t mean they know how to.* The process of moving through an experiential sequence and reducing the number of safety nets provided within each depth proved to be a difficult task. *FN\_BR2\_77: How do I let them fail? FN\_BR2\_113: [Students] are fighting this so hard! It would be so easy just to help them.* My natural reaction to give them what they needed was difficult to suppress and became more difficult depending on how long the process of “failing” took. *FN\_BR2\_84: How long do I let them fail? This is difficult to watch.* My teaching partner also experienced issues with watching students struggle, but instead of bringing a united front, we often stepped in when the other stepped back. It was a challenge to stay on the same page and we ended up repeating an unintentional game of “good cop - bad cop.” If we took one step forward, we would then

take three steps back. The process of adult learning seemed to be a whole lot more difficult for the *actual* “adults.”

### **Autopilot: The Harsh Reality of (Dis)engagement**

“Don’t give up. Don’t give in.  
You are exotic and that’s ok.  
You are different, beautifully so, and  
people will benefit from your perspective.  
Your words mean something.  
This experience is teaching you far more than what can be  
observed – it’s teaching you to believe in you.”  
(06\_1A\_SB1\_003)

The excerpt (06\_1A\_SB1\_003), above, was written on a postcard and taped face down into the pages of a student’s sketchbook. I thumbed through several times, never giving them too much thought (I assumed they were blank), but once the tape started to give, this postcard flipped over. It was one of ten she planned to send as little reminders to herself when she arrived back home. Lucky for me, she forgot to send them, and that afternoon, I sat by myself, read through each one, and cried.

*FN\_BR2\_114: I’m exhausted.*

When *teachers* say, “I’m exhausted”, I don’t really believe that’s what they mean. I’m sure they are tired and may *think* they are exhausted, but what I really *hear* them saying is, “I’m not excited about what I’m doing right now.” When *teachers* are *engaged*, they ignore being tired; they’re in the zone and running on fumes of passion.

*FN\_BR2\_115: I’m really exhausted.*

I fully recognize the blatant contradiction here, but that doesn’t change the reality of its occurrence. Comments like the one above peppered my field notes during the last six

months of this study. I was ashamed to write down thoughts like, “What am I doing?” or “I don’t want to be here,” so I didn’t, but they occurred nearly three times as much.

*There I said it. I was on autopilot.*

The shame of thinking these things, let alone including them in this study, was paralyzing. The idea of being “called out” for a *less than perfect study* because I was a *less than perfect* teacher was more than my pride (and future) could take. I felt like a big ole’ phony. Surely, I wasn’t the only one to ever feel this way, right? *Right?*

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When *students* say, “I’m exhausted”, I don’t really believe that’s what they mean. I’m sure they are tired and may *think* they are exhausted, but what I really *hear* them saying is, “I’m not excited about what I’m doing right now.” When *students* are *engaged*, they ignore being tired; they’re in the zone and running on fumes of passion.

“I’m exhausted” (38\_2B\_BR1\_071).

*Huh?* It was like some form of black magic. My students couldn’t possibly be experiencing the same thing. *We’re different. They don’t know what I know.* It defied *logic*... or maybe it just defied *common* knowledge?

*Constant Need for Reassurance*

The rare occurrence of this finding in the literature made the connection between my data and my students’ data even more difficult to accept. I needed some reassurance. Just like in class. *FN\_BR3\_099: There’s no “like” button here. Reading your expressions is hard, y’all.* And they did, too. “Nope. I’m wrong again. Help!” (38\_2B\_BR1\_074). Sometimes the search for reassurance was annoying – on all

accounts. I was frustrated by my students' constant need for encouragement and my teaching partner and mentor felt the same way toward me.

"I'm all out of cartwheels, Ash."

### **Black and Blue and Read All Over**

*It's my job to teach you about new colors, so you continue to look  
for more colors because you know more colors exist.*

(FN\_BR3\_048)

Reflection journals were originally designed to be a way for students to piece apart their thoughts, feelings, and opinions from the information presented in the course. It was a tool my teaching partner and I had used in several prior classes, and I was drawn to the way it gave students an opportunity to be honest – with themselves and their teachers. At the beginning of each semester, we laid out clear expectations for reflection, used various scenarios to help them separate information, and modeled expectations in our own classroom journals. We also established an “open-book” policy, where at any time, students could ask to see our journals.

Although reflections were initially designed teaching tools and a method of data collection, journals became visual representations of the differences between students. Originally, student journals were like fingerprints with unique patterns I got to know very well. Over the course of the study, their words, models, doodles, and sketches began to share common outlines, ridges, arches, and furrows. Because I could clearly see the differences between students laid out on the pages in front of me, reflection journals were pivotal to my understanding of an emerging student typology and confirmed many

of the hypotheses I previously considered. I found discussing types or differences to be difficult with words, mainly because they only became noticeable when viewing a student's work in its totality and in relation to others. Student reflections will be described by quantity, quality, originality, and perspective.

### *Quantity*

The quantity of student reflection differed by cohort, and more substantial differences were seen within each group. Most obvious to me was the increased quantity of reflection made by my more introverted students. Whereas, the extroverted students spoke more frequently in class, asked questions, and seemed to be engaged (with me), their quieter counterparts had nearly twice as many pages of reflection. Initially the quantity of reflection left me a bit confused. *FN\_BR1\_047: Why is this so hard? Some of them can send out thirty tweets a day, but only muster six lines of text in class. #RAWR.* As the course progressed, I began to see the contradiction I was experiencing between what I perceived to be classroom engagement (participation) and a different expression of engagement as observed by their journals. *FN\_BR1\_099: I suppose you can't "see" engagement in two places [in class and in journals] at once. What else do I expect them to do? Juggle?*

### *Quality*

The quality of reflections also differed between cohorts with substantial differences within groups. Determining or "measuring" the quality of reflections was difficult at first, but two "kinds" emerged. I considered students in the first group to be my "verbatim." If it was said in class, it was written down in almost the exact way it

was expressed. “Verbatim” reflections were more likely to include large amounts of detail and lack an in-depth analysis of the topics we discussed. To the contrary, reflections of the second type (the “analyzers”) usually lacked great detail, but linked class information to other courses or past experiences. These reflections typically included more questions than information, indicating a deeper level of critical analysis.

### *New Colors*

Reflections also differed by what I considered to be originality. Thirteen students used pencils and black or blue pens (exclusively) to write in their journals; twenty-four channeled their inner artist with every color imaginable; and five moved back and forth between the two. *FN\_BR2\_028: Clouds or rainbows, clouds or rainbows. Rarely do [students] fall somewhere in between.* At first I didn’t pay much attention to their particular choice of writing utensil, but soon patterns emerged between a student’s personality and the colors they were drawn to. *FN\_BR2\_109: Maybe there’s something to the colors they use after all? Feelers (emotional) are more drawn to colors. Thinkers (logical) not so much.*

Words were not the only method used to reflect and often time students sketched ideas, models, and symbols as representations of their thoughts, feelings, and opinions. At first glance, I considered their drawings to be doodles, but these were more complex and at times, quite clever. The picture in figure 8 is one example of a way student reflections took shape.

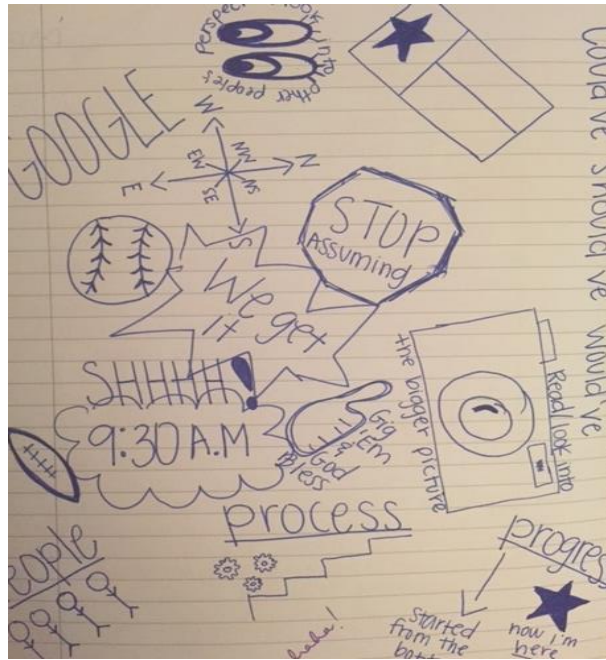


Figure 8. Example of student reflection as “sketch” notes.

Additionally, eight students from Cohorts 1A and two from Cohort 2A included things like postcards, stickers, flowers, and metro tickets in their journals. Each piece sat in place as reminder or souvenir of a memory, location, and experience. No mementos were included in the journals of students in Cohorts 1B or 2B.

#### *Me, You, Us, or Them*

Student reflections can also be understood by considering the unique perspective students used at the time. Four distinct perspectives (me, you, us, or them) were used to understand the focus students had at the time. “I” or “me” were the most commonly used words in “Me” reflections. “Why do I see other people as distractions?” and “How do I start representing myself more truthfully? (12\_1B\_BR1\_010)” are examples of the *me* emphasis. Reflections also expressed information or opinions toward specific persons, as

evident when student wrote, “I’m so annoyed when I hear [student] speak. Talk, Talk, TALK!!” (32\_2B\_BR1\_079). The *us* focus discussed the group as a collective and often used terms like “we” or “us.” “We are so unorganized! We gotta get it together!” (40\_2B\_BR1\_028). Lastly, reflections discussed groups outside of *us*, a perspective we labeled as *them*. Students usually used this perspective when anticipating or taking part in new experiences. For example, while visiting a neighborhood in San Francisco, one student wrote, “I have a hard time understanding these people. It’s so far from the world I’m used to” (25\_2B\_BR1\_64). More often than not, reflections focused on either *me* or *them*.



## Truth-Value

**au•then•tic** (*adj.*): real or genuine; worthy of acceptance as conforming to fact; true to one's own personality, spirit, or character; original (authentic, n.d.)

The traditions of the dissertation process, both expressed and uncovered, took me down a long, circuitous path. Communicating the findings of this study (on paper) has been a monumental task, but I have told this story (to anyone who would listen) every day since it began. You see, to me, this is more than just the next step toward my future, it's who I am and it's why I'm here. *#essequamvideri*

*"Just get it done, Ash."*

*"No dissertation is perfect."*

I hear ya [*sic*] and I wish it were that simple (to me). I wrestled with my own experiences—both teaching *and* learning—at every turn. I questioned and resisted what I consider to be “conformity;” I’ve been angry, frustrated, and disenchanted; and I developed a pretty large chip on my shoulder, too. *FN\_BR3\_047: How can I communicate this experience? Even more, how do they assess everything I’ve learned by reading one document? It’s not that simple.* The chip I allowed to grow for the past three years (one that is quite evident in this document) was often a barrier to my development. I was too close to everything and processing my emotions toward this study alongside the negativity I attached to my doctoral experience, got in the way of communicating its relative importance.

*"Just breathe. You're almost there."*

It turns out, folks were right. The writing I avoided and dragged myself through on some sad, lonely expedition was actually cathartic. The “pieces” were important, but I had to see each separately *and* at the same time. To this point, the “pieces” or themes have been presented in vignettes that lined the walls of my heart and mind for months, but they remain static without understanding the experience more holistically. The fact is, “words *are* hard”—hard to articulate, difficult to write, painful to digest, and often lost without the ones around them.

Facts are one thing, and sometimes the ones conveniently left from the pages of a dissertation offer a different story—the truth. This study began with specific research questions concerning the influences of experience on student engagement, however, “the path of discovery is not clearly marked, nor should it be” (Thorp, 2001, p. 37). I could have easily described student engagement throughout the entire study, in both depth and sequence, outlined findings of the hyper-focused quasi-experimental design I attempted to follow, and maybe provided more specific direction for others to build on for the future, however, that would have required me to alienate the most glaring pieces of data—my own.

Although it may seem as if I abandoned the design of this study somewhere along the way, that is not entirely the case. The truth is I became so focused on the design that I had a difficult time connecting with the most important and significant part of my study: *my students*. It was important for me to tell that story, to illustrate the many ways in which this study changed because I changed, and allow the reader to come to conclusions on their own. Ignoring the growing pains would have omitted the difficult

truths of an unrealizable objectivity. My attachment to design, and to the research process for that matter, had made it more difficult for me to engage in the very environment I created. My quest to understand the complex nature of people and social interaction was beset by my own transition from teacher to researcher. I was no longer the responsive and adaptable educator, but instead a rigid and design-focused researcher. And that, my friends, is the value of my truth.

## **CHAPTER V**

### **CONCLUSIONS AND CONVERSATIONS: $X \neq Y \neq Z$**

The findings of this study revealed many more questions than answers, but each became central to understanding issues of both student and teacher (dis)engagement more deeply. From one perspective, it was arrogant and naïve for me to believe a theory could be built during the course of one study. I now understand the purpose of this dissertation to be the first step toward theory construction. I also recognize the depth of data resulting from this study and the need to consider these experiences from points of introspection, insights, research, and understandings not addressed by the purpose of this study. Therefore, the conclusions presented and discussed in this chapter are limited to the focus of this study. I hope this study helps question many of the current perspectives of (dis)engagement and the way those perspectives may be hindering the process of teaching and learning.

#### **Experience is Engaging**

Generally speaking, student interest and motivation in learning was notably higher during the deepest levels of experience. Both quantity and quality of student reflections were greatest during deeper levels of experience. For Cohorts 1A and 2A, quantity of reflections jumped (increased) significantly before, during, and immediately after the immersive field experience. Whereas, levels of reflection remained relatively similar across Cohorts 1B and 2B. Students in Cohort 2A were more likely to reference (in class and reflection) the summer experience to connect information later in the semester, the observed frequency of this occurrence decreased as time passed. Although

I believed Cohort 2A would be more engaged (than Cohort 1A), because they would have a common experience to reference, no pattern of increased interest or motivation was clearly evident between cohorts. Although this study adhered to a cycle or spiral of experience (as described by Kolb), future research may consider understanding the importance of proximity to a specific experience during the learning process.

#### *Not All Experiences Are Created Equal*

No experience can be pre-designed without flaws and the significant influence of people (students and teachers) on the process of learning (regardless of depth or sequence) was evident every day. Students were different and their behaviors shaped the classroom. Any efforts to provide the same experience for each student often seemed like an uphill battle. The ability as teachers to do the same thing, the same way, at the same time was virtually impossible, especially given the slight differences in teaching styles. Replicating the exact depth and sequence across all four cohorts was challenging, especially when going in reverse order. Putting scaffolds up were very different (and at times a lot easier) than taking them down.

#### *Disruption vs. Destruction*

Although I didn't intentionally set out to understand the way experience disrupts the learning process, I found myself wondering about the relative impact each experience made on students individually. For some, immersive experience was fun and challenging, but for others it was paralyzing and defeating. In some instances, I felt as though I were walking a fine line between a *disruptive* and a *destructive* learning process. Was I doing more harm than good by providing new experiences students may

have not been ready for? What contributed to their “readiness” to learn from some experiences and not others?

### *Perspective is Everything*

My inability to often generalize findings by cohort, depth, or sequence was mainly due to the reciprocal way perspectives shaped our classroom. The personalities, learning styles, and prior experience of teachers and students came to the table and influenced the nature in which teaching and learning occurred. Our perspectives changed how we (as teachers and students) considered various experiences as either disruptive and conducive to learning or destructive to the process overall.

### *Proximity Changes Perspective*

Student reflections were an intriguing source of data when it came to understanding the perspective students brought to a particular experience in real-time. Although I could usually sense and observe a students’ excitement, fear, frustration, hesitation, anticipation, or ambivalence toward an experience, the most honest characterization appeared on the pages of their journal. Reflections in closest proximity to a particular experience were often pretty raw and more often than not included an outside influence as to whether they considered the experience as negative or positive.

Due to the design of this study, I was able to observe Cohort 1A and 1B process through experiences only for a short time after each occurred. In contrast, I observed as students in Cohorts 2A and 2B reflected for several months after the deepest levels of experience. The opportunity to notice changes in perspective were only due to my ability to observe students makes sense of these experiences over time.

### **Change May Not Come Overnight**

Many times teachers have an opportunity to see only small increases in actual student learning. I observed significant changes in learning during this study, but many times students were simply regurgitating information instead of letting it sink in. The adult learning sequence required students to learn out of critical need. Instead of remembering something to pass a test or get through a class assignment, students associated a concept, theory, or idea because they needed to employ its use during an immersive experience.

I often wondered what students learned and remembered from this course, and was pleasantly surprised when I received messages, pictures, or visits from many of them months after the end of this study. Some of the information in this course seemed to fall on deaf ears at the time, but was recalled later when needed (at work, graduate school, or in another course). As a teacher, it's sometimes difficult to accept, but impactful learning requires a great deal of reflection. Although it may seem students haven't grasped a concept immediately, learning may take weeks, months, or even years of reflection combined with new experiences to sink in and become working knowledge. Albeit frustrating in terms of assessment, it seems almost counter-intuitive to measure student learning immediately following an experience.

### **What Engages Me Today May Not Tomorrow**

One of the most frustrating, yet enlightening, findings of this study was the relative instability of what experiences engaged students. Moreover, just because any one student was interested or motivated in a particular topic, method, activity, (insert

absolutely anything here) did not mean the same thing would engage that same student the following day—or any day, really. “Me? I’m completely engaged in research today, but tomorrow? I dunno, maybe pandas?” (02\_1A\_BR2\_021).” The pattern of engagement that emerged was that there really was no pattern at all. I had no way of predicting how a student might react to certain activities or experiences and often times I got frustrated when levels changed. However, after considering the themes presented in this study, rifling back through my notes, going back to their data time and again, and considering the study holistically, I considered the unpredictable pattern as the very problem I sought to answer. Engagement was a dynamic interplay of people and processes that couldn’t be solved with a simple formula; it required dynamic understanding.

#### *A Matter of Time*

The countless number of unpredictable interactions between students and teachers during a process that was also changed by those interactions made it difficult to predict behavior during any one depth or sequence of time. As the “human instrument” of this study, I found it hard to accept that a solution may not exist. However, the concept of temporal stability, most often applied to metrics by statisticians, became the greatest challenge and enlightening revelation of this study. What was once observed in a specific place, by a specific person, under specific conditions, at a specific time was most influenced by time alone.



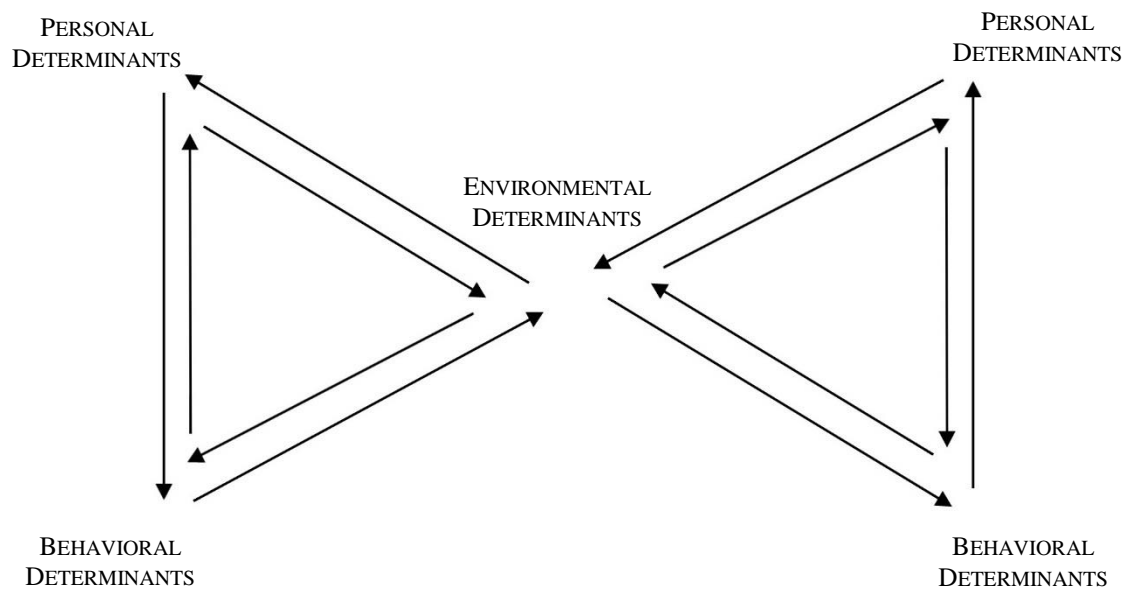
## **The Human Interaction Effect**

Although social cognitive theory was not the guiding force of this study, it served as a point of reference when considering factors of teaching and learning. When referring back to SCT to understand issues of temporal stability and interaction of multiple people, environments, and behaviors, I wondered if I sometimes took understanding the pieces of student engagement too literally.

At a granular level, factors suggested to change student interest and motivation were easy to understand, but the bigger challenge required that I consider the way each and every interaction changed the next in a dynamic way. It was a sequence of interactions, changes, and behaviors too large for me to see alone and the belief that a simple formula might uncover a one solution was short-sighted. The simplification was intended to guide understanding, but a more complex analysis was needed.

In Figure 9, I provided an expanded model of the complex interactions I observed during this study. The reciprocal and triadic nature of the interactions between people (students and teachers), a learning environment (of changing experiential depth and sequence), and the resulting behaviors varied by the strength of interaction over the course of the study. Figure 9 is one example of a two-way interaction, which, depending on unit of analysis, could vary. When considering the individual effect of multiple students and teachers on this process, the model could expand indefinitely. However, even the most complex and indefinite expansion of SCT would miss the mark on explaining the very three-dimensional nature of social interaction. Theories and models remain flat, as abstractions, no matter the level of distant observation. Until experienced,

models and theories lack depth and richness. Social cognitive theory demonstrates that without experience we cannot truly understand the complexity of interactions in a more fluid, adaptable, and three-dimensional way.



*Figure 9. Example of a two-way interaction with conceptual modification of SCT (Bandura, 1986).*

### *Dichotomies, Spectrums, and Dimensions*

My understanding of engagement during the first stages of this study required the development of basic dichotomies to understand the differences between students. However, splitting students into halves did not provide the ability to understand where each might be placed on a spectrum of differences. Moreover, those spectrums needed to be combined to understand the dynamic dimensions that contribute to understanding student engagement more truthfully. I continue to believe key dichotomies and

spectrums contribute to engagement in teaching and learning, but no longer believe there to be a formula to solve this problem.

### *The Problem with Formulas*

**for•mu•la** (*n.*): a method for doing, making, or achieving something; a statement intended to express fundamental truth or principle; a customary or set form or method allowing little room for originality (formula, n.d.)

The static and predictable nature of formulas may lead people to believe that the same person, doing the same thing, in the same way would provide the same answer every time. Formulas are rigid and conventional, and albeit mathematical, function as a way to solve problems--human or otherwise. The sheer number of variables needed to consider the dynamic interaction between students and teachers during the process of learning is overwhelming, but should be considered, nonetheless. Could we (teachers) be using an old formula that produces the opposite results? I believe this study may provide support to consider the formula of student engagement in a new way.

**al•go•rithm** (*n.*): a procedure for solving a problem in a finite number of steps that frequently involves repetition of an operation; a step-by-step procedure for solving a problem or accomplishing some end especially by a computer (algorithm, n.d.).

The nature of human complexity requires the use of more than static formulas to understand problems. Instead, I contend student engagement to be more of a complex algorithm that adapts and changes. The simple recipe mentality may keep teachers from seeing the effects of time, sequence, and depth on the overall process of authentic, meaningful, and lasting learning. Making an old recipe with new ingredients may not

result in the cake teachers have come to expect. The sheer number of new ingredients alone make it difficult to ensure the product is as intended each and every time.

Although I believe key “formulas” make up an engagement algorithm, those formulas, the way they are arranged, and the many ways in which they change is more complex than what I could understand during the course of this study. Understanding the findings of this study and the way it emerged would be too complex of a task without the consideration of a larger, more adaptable algorithm. With that said, I believe several formulaic components, such as personality, critical thinking ability, learning style, and prior experience should be considered to broaden our understanding of the perspective students and teachers bring to any learning environment. Additionally, understanding individual perspectives and educational experiences together, in terms of proximity, duration, depth, and sequence may be the link identifying more dynamic forms of an engagement algorithm.

*Too Much Information or Not Enough Experience?*

*FN\_BR3\_110: We [teachers] tend to teach the way we learn. But, what if they [students] don't learn in the way we teach?*

In 2017, a new generation of students will begin their college careers. These students have never experienced life without the Internet and may view information and knowledge from a very different perspective. Traditional methods of teaching that treat students as passive receptors of information without also engaging them in related experiences may create a gap of monumental proportions. How do we provide students with experiences instead of piling on more information? What if we started thinking

about learning from their perspective instead of the way we've always known it to be?

What if (dis)engagement was simply a matter of perspective?

*FN\_BR2\_022: Just because you can't see [engagement] doesn't mean it isn't there.*

## REFERENCES

- Abel, D. C. (1992). *Theories of human nature*. New York, NY: McGraw-Hill.
- Abel, J. R., & Deitz, R. (2014). Do the benefits of college still outweigh the costs? *Current Issues in Economics and Finance*, 20(3), 1-12.
- Abrami, P. C., Bernard, R. M., Borokhovski, E., Wade, A., Surkes, M. A., Tamim, R., & Zhang, D. (2008). Instructional interventions affecting critical thinking skills and dispositions: A stage 1 meta-analysis. *Review of Educational Research*, 78(4), 1102-1134.
- Alcoff, L., & Potter, E. (Eds.). (2013). *Feminist epistemologies*. New York, NY: Routledge.
- Algorithm. (n.d.). In Merriam-Webster's online dictionary (11th ed.). Retrieved from <http://www.merriam-webster.com/dictionary/algorithm>
- Anderson, L. W., & Krathwohl, D. R., et al (Eds.). (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Boston, MA: Allyn & Bacon.
- Anning, A. (1997). *The first years at school*. Buckingham: Open University Press.
- Association of American College and Universities. (2002). *Greater expectations: A new vision for learning as a nation goes to college*. Washington, DC.
- Association of American Colleges and Universities. (2015a). *The LEAP challenge*. Washington, DC.

Association of American Colleges and Universities. (2015b). *General education maps and markers: Designing meaningful pathways to student achievement*.

Washington, DC.

Astin, A. W. (1997) Liberal education and democracy: The case for pragmatism. In:

Orill, R. (ed.) *Education and democracy: Re-imagining liberal learning in*

*America*. New York, NY: College Entrance Examination Board, pp. 207–223.

Astin, A. W. (1999). Student involvement: A developmental theory for higher education.

*Journal of College Student Development*, 40(5), 518.

Atkinson, G., & Murrell, P. H. (1988). Kolb's experiential learning theory: A meta-

model for career exploration. *Journal of Counseling and Development*, 66(8),

374-377.

Authentic. (n.d.). In Merriam-Webster's online dictionary (11th ed.). Retrieved from

<http://www.merriam-webster.com/dictionary/authentic>

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*.

Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A., & Walters, R. (1963). *Social learning and personality development*. New

York, NY: Holt, Rinehart and Winston, Inc.

Barkley, E. (2010). *Student engagement techniques: A handbook for college faculty*. San

Francisco, CA: John Wiley & Sons.



- Bednar, A. K., Cunningham, D., Duffy, T. M., & Perry, J. D. (1992). Theory into practice: *Constructivism and the technology of instruction: A conversation*, 17-34.
- Bennett, W. J., & Wilezol, D. (2013). *Is college worth it?: A former United States secretary of education and a liberal arts graduate expose the broken promise of higher education*. Place, ST: Thomas Nelson, Inc.
- Bloom, A. D. (1991). *The republic of Plato*. Place, ST: Basic Books.
- Bloom, B., Englehart, M., Furst, W., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives: The classification of educational goals, by a committee of college and university examiners. Handbook I: Cognitive domain*. New York, NY: Longmans, Green.
- Bowen, S. (2005). Engaged learning: Are we all on the same page? *Peer Review*, 7(2), 4-7.
- Bradberry, T. R., & Su, L. D. (2006). Ability-versus skill-based assessment of emotional intelligence. *Psicothema*, 18(Suplemento), 59-66.
- Braxton, J. M., Jones, W. A., Hirschy, A. S., & Hartley III, H. V. (2008). The role of active learning in college student persistence. *New Directions for Teaching and Learning*, 2008(115), 71-83.
- Brennan, J., Durazzi, N., & Sene, T. (2013) *Things we know and don't know about the wider benefits of higher education: A review of the recent literature*. BIS Research Paper Number 133. London, UK: Department for Business, Innovation and Skills.

- Briggs-Myers, I., & Briggs, K. C. (1985). *Myers-Briggs Type Indicator (MBTI)*. Palo Alto, CA: Consulting Psychologists Press.
- Brooke, C., & Frazer, E. (Eds.) (2013). *Ideas of education: Philosophy and politics from Plato to Dewey*. New York, NY: Routledge.
- Bryman, A. (2012). *Social research methods* (4th ed.). Oxford, UK: Oxford University Press.
- Butler, J. M. (2011). Using standardized tests to assess institution-wide student engagement. In R. L. Miller, E. Amsel, B. Kowalewski, B. Beins, K. Keith, & B. Peden, (Eds.). *Promoting student engagement, volume 1: Programs, techniques and opportunities*. Syracuse, NY: Society for the Teaching of Psychology.
- Bruner, J. S. (2009). *The process of education*. Boston, MA: Harvard University Press.
- Bruner, J. S. (1996). *The culture of education*. Boston, MA: Harvard University Press.
- Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. *Research in Higher Education*, 47(1), 1-32.
- Carr, D. (2014). Metaphysics and methods in moral enquiry and education: Some old philosophical wine for new theoretical bottles. *Journal of Moral Education*, 43(4), 500-515.
- Chapman, E. (2003). Alternative approaches to assessing student engagement rates. *Practical Assessment, Research & Evaluation*, 8(13), 42-79.
- Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*. 39(7), 3-7.

- Clabaugh, G. K., & Rozycki, E. G. (1996). Foundations of education and the devaluation of teacher preparation. In F. B. Murray (Ed.), *The teacher educator's handbook: Building a knowledge base for the preparation of teachers*. San Francisco, CA: Jossey-Bass.
- Clifford, V. A., & Haigh, M. (2011). Graduate attributes and education for responsible global citizenship. Oxford Books: Oxford, U.K., pp.93-117.
- Coates, H. (2007) A model of online and general campus-based student engagement. *Assessment and Evaluation in Higher Education*. 32(2), 121–141.
- Coates, H. (2010) Development of the Australasian Survey of Student Engagement (AUSSE). *Higher Education*, 60(1), 1–17.
- Cognitive dissonance. (n.d.). In Merriam-Webster's online dictionary (11th ed.). Retrieved from <http://www.merriam-webster.com/dictionary/cognitivedissonance>
- Contagion. (n.d.). In Merriam-Webster's online dictionary (11th ed.). Retrieved from <http://www.merriam-webster.com/dictionary/contagion>
- Craig, R. (2015). *College disrupted. The great unbundling of higher education*. New York, NY: Palgrave Macmillan Trade.
- Cremin, L. A. (1961). *The transformation of the school: Progressivism in American education, 1867-1957*. New York, NY: Knopf.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Los Angeles, CA: Sage.
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage.

- Cronbach, Lee, (1963). *Educational psychology*. New York, NY: Harcourt, Brace and World.
- Cross, K. P. (1981). *Adults as learners*. San Francisco, CA: Jossey-Bass.
- Cruce, T. M., Mattern, K., & Sconing, J. A. (2015). More Promising Results.
- Darkenwald, G. G., & Merriam, S. B. (1982). *Adult education: Foundations of practice*. New York, NY: Harper & Row.
- Davenport, J., & Davenport, J. A. (1985). A chronology and analysis of the andragogy debate. *Adult Education Quarterly*, 35(3), 152-159.
- Denzin, N. K., & Lincoln, Y. S. (2009). *The Sage handbook of qualitative research*. Thousand Oaks, CA: Sage.
- Dewey, J. (1897). My pedagogic creed. *School Journal*, 54, 77-80.
- Dewey, J. (1902). *The child and the curriculum*. Chicago, IL: University of Chicago Press.
- Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education*. New York, NY: Macmillan.
- Dewey, J. (1938). *Experience and education*. New York, NY: Macmillan.
- Dewey, J. (1956). *The school and society*. Chicago, IL: University of Chicago Press.
- Doyle, W. R. (2012). The politics of public college tuition and state financial aid. *The Journal of Higher Education*, 83(5), 617-647.
- Ertmer, P. A., & Newby, T. J. (1993). Behaviorism, cognitivism, constructivism: Comparing critical features from an instructional design perspective. *Performance Improvement Quarterly*, 6(4), 50-72.

- Ewell, P. T. (2010). The US national survey of student engagement (NSSE). In *Public Policy for Academic Quality* (pp. 83-97). Springer Netherlands.
- Fancher, R. E. (1996). *Pioneers of psychology*. WW Norton & Co.
- Formula. (n.d.). In Merriam-Webster's online dictionary (11th ed.). Retrieved from <http://www.merriam-webster.com/dictionary/formula>
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74(1), 59-109.
- Freire, P. (1996). *Pedagogy of the oppressed*. London, England: Penguin Books.
- Freire, P. (2004). *Pedagogy of hope*. New York, NY: Continuum.
- Gagne, R. M. (1970). *The conditions of learning*. New York, NY: Holt, Rinehart, and Winston.
- Great Jobs, Great Lives: The 2014 Gallup-Index Report*. (2014). Washington, DC: Gallup.
- Graham, G. (2005). Behaviorism. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Fall 2007 ed.).
- Goleman, D. (1998). *Working with emotional intelligence*. New York, NY: Bantam Books.
- Guthrie, J. T., & Anderson, E. (1999). Engagement in reading: Processes of motivated, strategic, knowledgeable, social readers. *Engaged reading: Processes, practices, and policy implications*, 17-45.
- Habermas, J. (2014). *The future of human nature*. Place, ST: John Wiley & Sons.

- Harden, R. M. (1999). What is a spiral curriculum? *Medical Teacher*, 21(2), 141-143.
- Harper, S. R., & Quaye, S. J. (2009). Beyond sameness, with engagement and outcomes for all. In: *Student Engagement in Higher Education*. New York and London: Routledge, pp. 1–15.
- Hartree, A. (1984). Malcolm Knowles' theory of andragogy: A critique. *International Journal of Lifelong Education*, 3(3), 203-210.
- Haynes, J., Gale, K., & Parker, M. (2015). *Philosophy and education: An introduction to key questions and themes*. New York, NY: Routledge.
- Heubert, Jay P. & Hauser, R.M. (1999). High stakes: Testing for tracking, promotion, and graduation. A report of the National Research Council. Washington, DC: National Academy Press.
- Higher Education Funding Council for England. (2008). *Counting what is measured, or measuring what counts? League tables and their impact on higher education institutions in England*. Report to HEFCE by the Centre for Higher Education Research and Information (Open University) and Hobsons Research.
- Houle, C. O. (1972). *The design of education*. San Francisco: Jossey-Bass.
- Hu, S. and Kuh, G.D. (2001) *Being (dis)engaged in educationally purposeful activities: the influences of student and institutional characteristics*. Paper presented at the American Educational Research Association Annual Conference. Seattle, WA, 10–14 April.
- Huitt, W. (2001). Motivation to learn: An overview. *Educational Psychology Interactive*, 12.

Hume, D., 1738, *A Treatise of Human Nature*, L.A. Selby-Bigge (ed.), 2<sup>nd</sup> ed., revised by P.H. Nidditch, Oxford: Clarendon Press, 1975.

Hutchison, D. C. (2004). *A natural history of place in education* (Vol. 24). Teachers College Press.

Irwin, J. (2012). Paulo Freire's Philosophy of Education: Origins, Developments, Impacts, and Legacies. New York, NY: Continuum.

Johnson, J. A., Dupuis, V. L, Musial, D., Hall, G. E., & Gollnick, D. M. (1996). *Introduction to the foundations of American education* (10<sup>th</sup> ed.). Boston: Allyn & Bacon.

Johnson, D. W., Johnson, R. T., and Smith, K. A. (2001). *Cooperative Learning: Increasing College Faculty Instruction Productivity*. ASHE-ERIC Higher Education Report No. 4. Washington, DC: The George Washington University, School of Education and Human Development.

Jonassen, D. H. (1991). Objectivism versus constructivism: Do we need a new philosophical paradigm? *Educational Technology Research and Development*, 39(3), 5-14.

Jonassen, D., & Land, S. (Eds.). (2012). *Theoretical foundations of learning environments*. Routledge.

Jupp, V. (Ed.). (2006). *The SAGE Dictionary of Social Research Methods*. London, England: SAGE Publications, Ltd. doi: <http://dx.doi.org/10.4135/9780857020116>

- Kearsley, G., & Shneiderman, B. (1998). Engagement Theory: A Framework for Technology-Based Teaching and Learning. *Educational Technology*, 38(5), 20-23.
- Knowles, M. (1973). *The adult learner: A neglected species*. Houston, TX: Gulf.
- Knowles, M. S. (1980). *The modern practice of adult education*. New York, NY: Cambridge, The Adult Education Company.
- Knowles, M., Holton, E., & Swanson, R. (2011). *The adult learner: The definitive classic in adult education and human resource development* (7th ed.). Oxford: Butterworth-Heinemann, Elsevier.
- Kolb, D. A. (1984). *Organizational psychology: readings on human behavior in organizations*. Englewood Cliffs: Prentice-Hall
- Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education*, 4(2), 193-212.
- Kolb, A. Y., & Kolb, D. A. (2005). *The Kolb Learning Style Inventory—Version 3.1*. Boston, MA: HayGroup.
- Kolb, D. A. (2007). *Kolb Learning Style Inventory: LSI Workbook*. Boston, MA: Hay Group.
- Kolb, A. Y., & Kolb, D. A. (2013). *The Kolb learning style inventory 4.0: A comprehensive guide to the theory, psychometrics, research on validity and educational applications*. Cleveland Heights, OH: Experience Based Learning Systems, Inc.



- Kolb, D. A., Boyatzis, R. E., & Mainemelis, C. (2001). Experiential learning theory: Previous research and new directions. *Perspectives on thinking, learning, and cognitive styles, 1*, 227-247.
- Kolb, D. A. (2014). *Experiential learning: Experience as the source of learning and development*. FT press.
- Korobova, N., & Starobin, S. S. (2015). *A comparative study of student engagement, satisfaction, and academic success among international and American students*. *Journal of International Students, 5*(1), 72-85.
- Kovalchick, A., & Dawson, K. (Eds.). (2003). *Education and technology: An encyclopedia*. Abc-clio.
- Krause, K. L. D. (2005). Serious thoughts about dropping out in first year: Trends, patterns and implications for higher education. *Studies in learning, evaluation, innovation, and development, 2*(3), 55-68.
- Krause, K. and Coates, H. (2008) Students' Engagement in First-Year University. *Assessment and Evaluation in Higher Education. 33* (5), pp. 493–505.
- Kuh, G.D. (2001) Assessing What Really Matters to Student Learning: Inside the National Survey of Student Engagement. *Change. 33* (3), pp. 10–17
- Kuh, G.D. (2009a) *Afterword*. In: Harper, S.R. and Quaye, S.J. (eds.) *Student Engagement in Higher Education*. New York, NY and London, UK: Routledge, pp. 313–318.

- Kuh, G.D. (2009b) The National Survey of Student Engagement: Conceptual and Empirical Foundations. *New Directions for Institutional Research*. 141 (Spring 2009), pp. 5–20
- Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *The Journal of Higher Education*, 79(5), 540-563.
- Lagemann, E. C., & Lewis, H. (2012). Renewing Civic Education. Time to restore American higher education's lost mission. *Harvard Magazine*, 3, 42-45.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge university press.
- Leonard, D. C. (2002). *Learning Theories*. Westport, CT: Greenwood Press.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Lincoln, Y. S., & Guba, E. G. (1986). But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *New Directions for Program Evaluation*, 1986(30), 73-84.
- Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. *The Sage handbook of qualitative research*, 4, 97-128.
- Locke, J., 1690, *An Essay Concerning Human Understanding*, in Peter H. Nidditch (ed.), *An Essay Concerning Human Understanding*, Oxford: Clarendon Press, 1975.

- Lutz, S., & Huitt, W. (2003). *Information processing and memory: Theory and applications*. Educational Psychology Interactive. Valdosta, GA: Valdosta State University.
- Magolda, P. M. (2005). Proceed with caution: Uncommon wisdom about academic and student affairs partnerships. *About Campus*, 9(6), 16-21.
- Marti, C. N. (2008). Dimensions of student engagement in American community colleges: Using the Community College Student Report in research and practice. *Community College Journal of Research and Practice*, 33(1), 1-24.
- Maslow, A. H., Frager, R., & Cox, R. (1970). *Motivation and personality* (Vol. 2). J. Fadiman, & C. McReynolds (Eds.). New York, NY: Harper & Row.
- Maxwell, N. (2007). *From knowledge to wisdom: A revolution for science and the humanities*. London: Pentire Press.
- Mayer, J. D., Salovey, P., Caruso, D. R., & Sitarenios, G. (2001). Emotional intelligence as a standard intelligence. *Emotion*, 1(3), 232-242.
- McArthur, J. (2011). Reconsidering the social and economic purposes of higher education. *Higher Education Research & Development*, 30(6), 737-749.
- McCann, C., & Laitinen, A. (2014). *College blackout: How the higher education lobby fought to keep students in the dark*. Washington, District of Columbia.
- McHenry, L. B. (2007). Commercial influences on the pursuit of wisdom. *London Review of Education*, 5(2), 131-142.
- McKenzie, L. (1979). A response to Elias. *Adult Education Quarterly*, 29(4), 256-261.

- McKeown, B., & Thomas, D. B. (1988). *Q methodology*. Quantitative Applications in the Social Sciences, Vol. 66. Newbury Park, CA: Sage.
- Menges, R. J., & Austin, A. E. (2001). Teaching in higher education. *Handbook of Research on Teaching*, 4, 1122-1156.
- Merriam, S. B. (1998). Qualitative research and case study applications in education. San Francisco, CA: Jossey-Bass.
- Merriam, S. B. (2001). Andragogy and self-directed learning: Pillars of adult learning theory. *New Directions for Adult and Continuing Education*, 2001(89), 3-14.
- Merriam, S. B. & Simpson, E. L. (2000). *A guide to research for educators and trainers of adults*. Malabar, Florida: Krieger.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook*. Los Angeles, CA: Sage.
- Minter, R. L. (2011). The learning theory jungle. *Journal of College Teaching & Learning (TLC)*, 8(6), 7-16.
- Myers, L.B. (1962). *Manual: The Myers-Briggs Type Indicator*. Princeton, NJ: Educational Testing Services.
- Nussbaum, M. C. (2012). *Not for profit: Why democracy needs the humanities*. Princeton University Press.
- Nelsen, P. J. (2014). Intelligent Dispositions Dewey, Habits and Inquiry in Teacher Education. *Journal of Teacher Education*, 66(1), 86-97.

- Noddings, N. (2010). *Dewey's Philosophy of Education: A Critique from the Perspective of Care Theory, The Cambridge Companion to Dewey*. Cambridge: Cambridge University.
- Olsen, 2015 Olson, M. H. (2015). *An introduction to theories of learning*. Psychology Press.
- Ozmon, H. A., & Craver, S. M. (2008). *Philosophical Foundations of Education*, 8th ed. Columbus, OH: Pearson.
- Painter, A. M. (1987). *A history of education*. New York: Appleton.
- Palmer, P. J., Zajonc, A., & Scribner, M. (2010). *The heart of higher education: A call to renewal*. John Wiley and Sons.
- Pascarella, E. T., Ethington, C. A., & Smart, J. C. (1988). The influence of college on humanitarian/civic involvement values. *The Journal of Higher Education*, 412-437.
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research*. Jossey-Bass, An Imprint of Wiley.
- Pascarella, E. T., Seifert, T. A., & Blaich, C. (2010). How effective are the NSSE benchmarks in predicting important educational outcomes? *Change: The Magazine of Higher Learning*, 42(1), 16-22.
- Patton, M. Q. (2009). *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage.

- Perry Jr., W. G. (1968). *Patterns of development in thought and values of students in a liberal arts college: A validation of a scheme*. Bureau of Study Counsel: Harvard University.
- Piaget, J. (1973). *To understand is to invent: The future of education*. New York: Grossman.
- Piaget, J. (1976). *Piaget's theory* (pp. 11-23). Springer Berlin Heidelberg.
- Piaget, J. (1983). "Piaget's theory". In P. Mussen (Ed.) *Handbook of child psychology*. New York: Wiley.
- Peirce, C. S. (2012). *Philosophical writings of Peirce*. Courier Corporation.
- Phillips, D. C. (Ed.). (2014). *Encyclopedia of educational theory and philosophy*. Thousand Oaks, CA: Sage Publications.
- Platsidou, M., & Metallidou, P. (2009). Validity and reliability issues of two learning style inventories in a Greek sample: Kolb's Learning Style Inventory and Felder and Soloman's Index of Learning Styles. *International Journal of Teaching and Learning in Higher Education*, 20(3), 324-335.
- Polanyi, M. (1974). *Personal knowledge: Towards a post-critical philosophy*. Chicago, IL: University of Chicago Press.
- Ravitch, S. M., & Riggan, M. (2012). *Reason & rigor: How conceptual frameworks guide research*. Thousand Oaks, CA: Sage Publications.
- Readings, B. (1996). *The university in ruins*. Boston, MA: Harvard University Press.
- Richey, R. (1986). *The theoretical and conceptual bases of instructional design*. Nichols Pub Co.

- Rogers, A. (1996). *Teaching adults* (2nd ed.). Buckingham: Open University Press.
- Rowland, S; (2002) Overcoming fragmentation in professional life: the challenge for academic development. *Higher Education Quarterly*, 56(1) pp. 52-64.
- Rudolph, F. (1962). *The American college and university: A history*. Athens, GA: University of Georgia Press.
- Rust, C. (2002). The impact of assessment on student learning how can the research literature practically help to inform the development of departmental assessment strategies and learner-centered assessment practices? *Active Learning in Higher Education*, 3(2), 145-158.
- Sartre, J. P. (2015). *Sketch for a theory of the emotions*. Routledge.
- Savitz-Romer, M., Rowan-Kenyon, H., Zhang, X., & Fancsali, C. (2014). *Social-emotional and affective skills landscape analysis: An executive summary*. Columbia, MD: IMPAQ.
- Schofield, H. (2012). *The philosophy of education: An introduction*. Routledge.
- Selingo, J. J. (2013). *College (un)bound: The future of higher education and what it means for students*. Houghton Mifflin Harcourt.
- Sheldon, K.M. & Biddle, B.J. (1998). Standards, accountability, and school reform: Perils and pitfalls. *Teachers College Record*, 100, 164-180.
- Shulman, L. S. (2005). Making differences: A table of learning. *Change*, 34(6), 36-44.
- Siegel, H. (2009). *The Oxford handbook of philosophy of education*. Oxford University Press.

- Skinner, B. F. (1964) New Methods and New Aims in Teaching, *New Scientist*, 122, pp. 483–484.
- Skinner, B. F. (2011). *About behaviorism*. New York, NY: Vintage.
- Skinner, E. A., Wellborn, J. G., & Connell, J. P. (1990). What it takes to do well in school and whether I've got it: A process model of perceived control and children's engagement and achievement in school. *Journal of Educational Psychology*, 82(1), 22.
- Smith, B. O. (1971). *Research in Teacher Education; A Symposium*. Englewood Cliffs, NJ: Prentice-Hall.
- Smith, N. W. (2001). *Current systems in psychology: History, theory, research, and applications*. Belmont, CA: Wadsworth/Thompson Learning.
- Snelbecker, G. (1983). *Learning theory, instructional theory, and psychoeducational design*. New York, NY: McGraw-Hill.
- Soltis, J. F. (1978). *An introduction to the analysis of educational concepts*. Reading, MA: Addison-Wesley.
- Sorathia, K., & Servidio, R. (2012). Learning and experience: Teaching tangible interaction & edutainment. *Procedia-Social and Behavioral Sciences*, 64, 265-274.
- Spradley, J. P. (1979). *The ethnographic interview*. New York, NY: Holt, Rinehart and Winston.
- Tanner, L. N. (1991). The meaning of curriculum in Dewey's laboratory school (1896-1904). *Journal of Curriculum Studies*, 23(2), 101-117.



- Tashakkori, A., & Teddlie, C. (2010). *Sage handbook of mixed methods in social & behavioral research* (2nd ed.). Thousand Oaks, CA: Sage.
- Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. Thousand Oaks, CA: Sage.
- Thorndike, E. L. (1965). *Animal intelligence: Experimental studies*. Transaction Publishers.
- Thorp, L. G. (2001). *The pull of the earth: An ethnographic study of an elementary school garden* (Doctoral dissertation). Texas A&M University, College Station, Texas.
- Time/Carnegie Corporation of New York. (2012). "Higher education poll." Published on October 18, 2012.
- Vasta, R., Haith Marshall, M., & Miller Scott, A. (1995). *Psychologia dziecka*.
- Vygotsky, L. (1978). Interaction between learning and development. *Readings on the development of children*, 23(3), 34-41.
- Wood, D., Bruner, J., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Child Psychiatry*, 17, 89–100.
- Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: Sage Publications.
- Zhao, C., & Kuh, G. D. (2004) Adding value: Learning communities and student engagement. *Research in Higher Education*, 45(2), 115–138.

Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology*, 25(1), 82-91.